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INFECTION AND ITS CONTROL IN CHILDREN'S WARDS *

By E. H. R. Harries, M.D. Lond.
MEDICAL SUPERINTENDENT, NORTH-EASTERN HOSPITAL (LONDON COUNTY COUNCIL)

LECTURE II.

Upper respiratory tract infections are ordinarily transmitted by droplet spray, but in the measles wards which were referred to in my first lecture there was no evidence of the occurrence of post-admission broncho-pneumonia amongst children adjacent to those admitted with that complication—there being 12 feet of wall space between cot-centres. Such cases as occurred, 39 amongst 1464 admissions of measles patients up to the age of five years, were quite haphazard as regards spatial distribution in the ward.

Upper respiratory tract infections differ greatly in their degree of infectivity. Virus diseases are the most highly infective and are very much more readily transmitted either by droplet spray or upon the hands of attendants than are bacterial infections. This is due in part, no doubt, to the minute size of the viral bodies and in part to the fact that some of the virus diseases are characterised, in their early stages, by sneezing and coughing. In some experiments upon the droplet dissemination of virus diseases Colvin [1] using bacteriophage as an indicator because it has numerous points of resemblance to viruses, found that sneezing was a hundred times more infective than coughing. The bacteriophage was demonstrated only in the droplets and thus was dispersed in exactly the same way as bacterial respiratory tract infections. That virus diseases may be most highly infective during the prodromal stages is particularly well recognised in the case of the common cold, measles, and chicken-pox.

1. *The Common Cold.*—Long, Bliss, and Carpenter [2] showed that the common cold may be infective to apes late in the incubation stage. They think it is improbable that masking of the infected person is a complete protection against dissemination and point out the possibility of the contamination of hands which, after having been scrubbed, have unconsciously been allowed to touch the face. Bliss and Long [3] showed that it was necessary for an infected person merely to prepare the food in the kitchen, taking no part in its distribution to the chimpanzees, this being carried out with the strictest aseptic precautions by others, to infect several of the animals with severe common colds.

2. *Measles and Chicken-pox.*—Considerable knowledge has been acquired as to the most infective phases and modes of dissemination of these two diseases as the result of the observations of those who have practised in fever hospitals the various methods of segregation founded upon the work of Grancher and of Hutinel in the children's hospitals of Paris with such later improvements of technique as were devised at the Pasteur Hospital opened in 1900.[4 5] Grancher [6] in 1889, at the Hôpital des Enfants Malades, devised movable screens and adopted an antiseptic technique, and Hutinel,[6] in 1894, at the Enfants Assistés, contrived boxes or cubicles combined with antisepsis and asepsis in order to diminish the dangers which arose from the dissemination of infection amongst children aggregated in open wards. The conditions which they endeavoured to guard against were not the specific fevers but the "infections banales" of the respiratory and gastro-intestinal tracts.

Those who planned fever hospitals in the past failed to provide adequate isolation accommodation. Thus, fever hospital administrators, from the sheer necessity of accommodating those patients who, for one reason or another, it was unsafe to admit to ordinary wards, have been amongst the earliest to adopt the principles and practice of Grancher and Hutinel.

Thirty years ago, Gordon Pugh [7] by subdivision of three existing wards at the North-Eastern Hospital, first reproduced Hutinel's cubicles in this country and instituted a technique of aseptic nursing which is still carried out in the same cubicles which, however, are shortly to be replaced by new structures. Pugh found that measles and chicken-pox could not be nursed in these cubicles without danger of spread and this remains the case. In 1934 a total of 831 patients were admitted to the 34 cubicles contained in the three wards. Of these, 638 were suffering from infective conditions and 193 from non-infective conditions. Only 2 patients initiated cross-infection. They were each admitted in the incubation stage of chicken-pox and from each one case of that disease arose in another cubicle in the same ward.

Goodall [8] in 1910 divided a ward at the Eastern Hospital into completely separate chambers closely similar to those at the Pasteur Hospital. Even complete structural separation and an aseptic technique will not always prevent the transference of measles and chicken-pox from one chamber to another. A breach of technique may result in personal contact of patients or manual transference by the staff. Chapin [9] in his classical work on "The Sources and Modes of Infection" stressed the importance of personal contact and the manual transmission of infection and the relative unimportance of aerial spread. His work lent great support at the time to the experiments of Rundle of the Liverpool City Hospital, Fazakerley, who was evolving the system known as *bed isolation*. Crookshank,[10] it must be noted, had immediately prior to the appearance of Chapin's book introduced a similar system upon a small scale at the Barnes Isolation Hospital.

Bed Isolation

Bed isolation assumes an "invisible barrier" created by spacing and aseptic technique around *each* patient in the ward as distinct from the "barrier nursing" of one or more patients in the ward. Barrier nursing was introduced by J. Biernacki at the Plaistow Fever Hospital about 1908. Coloured bands or cords indicated in scarlet fever wards those patients who were to be regarded as potentially infective to other patients in the ward and who were, therefore, to be nursed "in barrier" with strict asepsis. Rundle and Burton [11] and Rundle [12] showed that patients suffering from a variety of infective and non-infective conditions might be nursed with a notable freedom from cross-infection in the same open ward providing that the "invisible barrier" surrounding each patient was scrupulously maintained. Thomson and Price [13] arranged a bed-isolation ward, the existing spacing of 15 *feet* between bed-centres being adhered to. They concluded that under the conditions obtaining

* The Milroy lectures for 1935, delivered before the Royal College of Physicians of London.

in the ward, diphtheria and scarlet fever definitely, and mumps and rubella probably, were not air-borne. Measles, they thought, was air-borne early in the disease, and chicken-pox, intensely infective and air-borne in its early stages, was not infective after the third day from onset. Thomson [14] found that on two occasions in the same ward, under the same conditions, chicken-pox arose in patients separated by the whole length of the ward (90 feet) from the primary source; on three occasions when the distance was half the length of the ward, and on ten when the distance from the source was shorter. He believed that aerial transmission was the most likely mode of spread.

Harries,[15] as the result of his experience in two bed-isolation wards in Birmingham, found that with neither 9 feet nor 12 feet of wall space could patients admitted in the prodromal stages of measles or chicken-pox be nursed without danger of spread. Between adjacent cots aerial transmission was possible, but over longer distances infection was much more likely to be conveyed by attendants. It was extremely unlikely, for example, that the virus of measles spread aerially in an oblique direction across the ward in a dosage sufficient to bring about simultaneous attacks in three children in adjacent cots upon the opposite side of the ward. Aerial transmission was an unlikely explanation of the mode of spread of the virus of chicken-pox through the whole length of a ward and a lobby to a corner cot in an adjacent division of the ward, intermediate susceptibles remaining uninfected.[15] (1924.)

Bacterial infections of the upper respiratory tract are much less infective than virus diseases. Glover [16] showed the conditions of spacing in sleeping quarters under which the meningococcus might be disseminated. Eagleton [17] found that in ordinary sleep this organism was not carried more than 5 feet. During violent coughing it may be spread three times this distance, a much shorter distance, he added, than in the case of many other organisms. A single act of sneezing or coughing may be sufficient to infect with the virus of measles a child in the next cot, but much more massive or more frequently repeated doses are necessary for the effective transmission of bacterial infections. It is notable how rarely whooping-cough, when introduced inadvertently in its infective phase, is disseminated in open wards with adequate bed-spacing, even when the patient is not nursed in in barrier. Thomson and Price concluded that the evidence of the aerial transmission of whooping-cough in their bed-isolation ward was not definite.

Experience with the cough-plate method of diagnosis shows that the plate must be held within 4 or 5 inches of the child's mouth when it is in the act of coughing, and even then the Bordet-Gengou bacillus is recoverable only in a proportion of cases. Kendrick and Elderling [18] obtained positive cultures from 78 per cent. to 84 per cent. of 207 clinically diagnosed cases of whooping-cough during the first three weeks of the disease; 39 per cent. in the fourth week and 0 per cent. in the sixth week. On the other hand, Macdonald and Macdonald [19] by the actual implantation upon the nasal and faucial mucosa of approximately 140 bacilli produced typical attacks of whooping-cough in two non-immune boys who had volunteered for the experiment.

Close contact, or the actual introduction of the causal organisms into the nasopharynx upon fingers or implements is necessary for the transmission of diptheria or scarlet fever. With 12 feet of space between cot-centres it is very unlikely that effective aerial transmission of bacterial infections occurs. It is doubtful whether it is possible for an enfeebled child suffering from broncho-pneumonia by repeated acts of coughing to produce a "velocity of infection," Dudley's term,[20] sufficient to infect in other than minimal doses the upper respiratory tract of another child 12 feet distant from the source and, a fortiori, of a child more remotely situated.

I believe that the post-admission complications which occurred in the measles wards referred to earlier in so far as they were not autogenous, resulted from relatively gross infection of the upper respiratory tract by means other than droplet spray. The grounds for this belief are that when children with bacterial upper respiratory tract infections are nursed in wards with identical bed-spacing, the additional safeguard of an aseptic technique being applied to each patient in the ward, spread of infection does not occur.

Adult Carriers

Of the three common viral infections discussed—viz., the common cold, measles, and chicken-pox—the last two may be ruled out as being introduced by adult convalescent carriers. Nearly all adults are immune to these two diseases as the result of an attack in childhood, and chronic carriers are unknown. Temporary contact infection of the nasopharynx, hair, hands, and clothing of adults may result in the transference of these diseases from one ward to another, and be the explanation of some outbreaks otherwise unexplainable. The common cold and similar "influenzal" conditions are undoubtedly introduced and disseminated by adults who enter children's wards in an infective condition. Crosbie [21] found that the masking of the staff in infant wards protected the patients from catarrhal infection, with the result that enteritis almost disappeared from those wards.

Spence [22] observed that the incidence of scarlet fever in his children's wards declined markedly when visiting was limited. Fever hospitals are exempt from mass visitations of parents. Visiting is strictly limited as to occasion and duration. Hooded gowns and a prescribed distance from the bed are insisted upon. Hands and face are washed before leaving the institution. Under such conditions it is unlikely that visitors to fever hospital wards play any important part in the transference in or out of the institution of purely bacterial infections, such as diphtheria or scarlet fever, but that they may introduce infections of the type of the common cold is more than probable.

The question of staff carriers is important. Joe [23] remarks that in isolation chambers nursing technique only operates to prevent infection between patient and patient, and the possibility of occasional staff carriers (of scarlet fever) must be borne in mind. He adds that the only methods of eliminating cross-infection from this source would be to adopt continuous masking or rigid bacteriological standards of freedom from infection, measures attended by insuperable practical difficulties.

Christie [24] found that nurses in pneumonia pavilions became temporary contact carriers of the pneumococcus but apparently without danger to themselves or others. My colleagues, Begg and Mair,[25] report that of a series of new entrants to the nursing staff at the North-Eastern Hospital during the autumn of 1934 who were swabbed before commencing duty for the first time in the wards, 56 per cent. harboured hæmolytic streptococci in the nose or throat, but in none were the organisms present in pure culture. If the nasopharynx was healthy, probationers, although harbouring the organisms at the time of beginning duty in the wards, soon lost them. If, on the other

hand, there was an abnormal or unhealthy condition of the nasopharynx, they tended not only to retain hæmolytic streptococci but to become profuse carriers or to develop streptococcal tonsillitis. No entrant harboured diphtheria bacilli, and only one subsequently became a temporary (immune) carrier while nursing diphtheria patients.

Cultures from the nose and throat of 173 nurses working in various wards proved positive for the hæmolytic streptococcus in 88 instances. Of these, the colonies were sparse in 54, numerous in 31, and in pure culture in 3 instances only. More than half the cultures showing numerous colonies and the only three pure cultures were derived from nurses attending scarlet fever patients. Of nurses with healthy throats, 61·5 per cent. returned negative results, compared with 16·6 per cent. in the case of those with unhealthy naso-pharyngeal mucosa. Clearly it is the nurse in the latter category who is potentially in danger herself and most likely to be a source of danger to others. Dr. V. D. Allison, of the Ministry of Health, kindly typed the strains recovered. They comprised 38 strains of the hæmolytic streptococcus, 19 of which fell into those frequently associated with tonsillitis, puerperal fever, and other hæmolytic streptococcal infections.

FIG. 3.—West elevation and ground-floor plan of new receiving block at the North-Eastern Hospital.

Control of Ward Infections

It is not feasible in the general children's hospital to eliminate entirely the danger of the waiting-room and casualty-room. The receiving-rooms of fever hospitals, to which children are brought by ambulance for confirmation of diagnosis and allocation to the wards, may be similarly dangerous, unless properly planned. When fever hospitals received, as such, only three notifiable infectious diseases—viz., diphtheria, scarlet fever, and enteric fever—small-pox being then, as now, admitted to separate hospitals, the single-chambers provided for each of these three diseases may have been adequate, but with the enlargement of the clinical field they are no longer so. In some provincial fever hospitals this fact has been recognised for many years, and receiving-rooms dispensed with, patients being examined, and allocated to wards, in the ambulance itself, a plan which has much to recommend it.

A receiving-room shortly to be erected at the North-Eastern Hospital will provide six separate chambers, each of which can be entered from the exterior and also from a central interior duty-room. The plan of this receiving-room (Fig. 3) and succeeding plans, are reproduced by permission of the medical officer and the clerk to the London County Council.

Preliminary Quarantine

Mackenzie [26] notes the tendency of children's hospitals in England to isolate young children for at least 48 hours after admission and, where accommodation allows, for several days. That preliminary quarantine, even for a few days, does operate to reduce the number of children admitted to the wards in an infective or potentially infective condition is the experience of Crosbie [21] at the Alder Hey Children's Hospital. Amongst 7746 admissions, 1276 children who were known contacts or who showed suspicious symptoms, were admitted to isolation blocks for an average period of 6 days. Of those so isolated, 35 per cent. developed some infectious disease. Preliminary quarantine, however, to be really effective, must be imposed upon all entrants for a period of three weeks, in order to cover the longest incubation period of the common fevers. Such a period is impossible as a general measure for hospitals receiving children suffering from acute illnesses; the institution would be disorganised. Nor, in such institutions, is it possible to impose quarantine, even for a limited period, upon *every* child admitted. (The circumstances of the long-stay hospital which receives tuberculous or rheumatic children differ entirely, for here universal and adequate quarantine may be practicable.)

Preliminary quarantine imposed even upon a limited scale must make great demands upon the available isolation accommodation, which is being increasingly used in both children's and fever hospitals for the segregation of patients suffering from infections other than the exanthemata.

Isolation Accommodation

A committee of the American Academy of Pediatrics [27] analysed the conditions under which communicable diseases of all types were nursed in 35 representative children's hospitals in the United States of America. The large number of these institutions which segregate in cubicles patients with respiratory tract infections, other than the specific fevers, is noteworthy. The recognition by fever hospital authorities that children with such conditions as broncho-penumonia and otitis media constitute

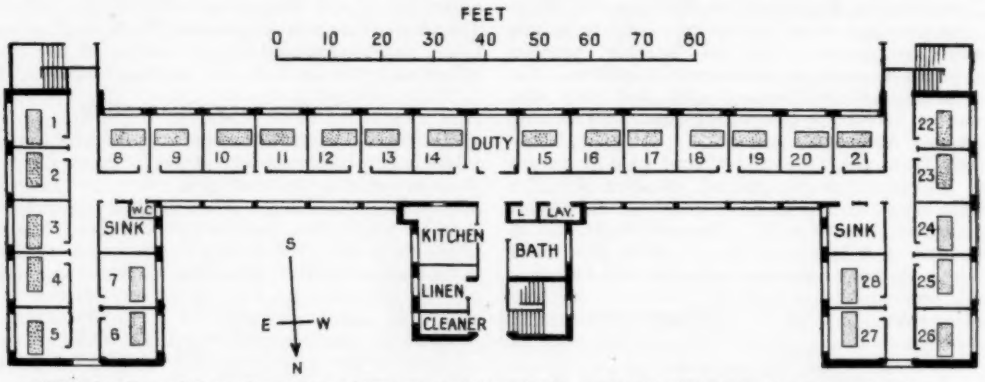

FIG. 4.—Ground-floor plan of one of two new isolation blocks. The stippled rectangles represent beds.

potential sources of infection when nursed in ordinary wards, unless indeed all are nursed in barrier, which is not generally practicable, has as a necessary sequel the provision of greatly increased isolation accommodation. In the fever hospitals of the London County Council this increased accommodation is being provided by the erection of two-storied blocks containing in each floor a large number of separate chambers.

In the plan (Fig. 4) of a floor of one of two such blocks, shortly to be erected at the North-Eastern Hospital, it will be seen that 28 separate chambers are provided. The two blocks will thus contain 112 single chambers or "wardlets."

It is neither feasible nor desirable to nurse every child in a chamber; the majority must and should be admitted to larger wards. Hence it is desirable to consider the conditions which should obtain in these wards in order that the dissemination of extraneous infection of any type inadvertently introduced may be reduced to a minimum.

Seventy years ago, Murchison [28] advocated for fever patients an allowance of 2000 cubic feet of air space, but he recognised that, however perfect the ventilation, "small-pox and scarlet fever will spread among persons not protected."

Although adequate ventilation is essential, the most important factor is not cubic space but space between bed-centres. The minimum standard of the Ministry of Health for fever hospitals is 9 feet between the edges of the beds, 12 feet between bed-centres, and 144 square feet of floor space. This standard is maintained in the infectious diseases hospitals of the London County Council and in newly constructed wards in the provinces—e.g., at Birmingham and Coventry. Those who have had experience of fever wards where this standard was not attained in normal periods and encroached upon in epidemic periods by the intercalation of additional beds, can be in no doubt as to its necessity. Overcrowded scarlet fever wards, for example, result in a greatly increased incidence of extraneous complications, such as, rhinitis and impetigo. An overcrowded ward implies overworked nurses who cannot perform routine nursing duties satisfactorily, while any attempt at barrier nursing which necessitates not only adequate spacing but rigorous aseptic precautions, cannot do other than create a false sense of security.

Mackenzie, in his survey, notes that the standards at present adopted for the accommodation of sick children in general or children's hospitals are 7 feet between bed-centres, a superficial area of 77 feet, and 847 cubic feet of air space. But it must be added that in children's wards, recently built or contemplated, the allowance of space between cot-centres is being steadily increased.

Liberal provision of small wards adjacent to the main ward and partial subdivision of the main ward itself by means of glass screens are outstanding features of recent design in both children's and fever hospitals. As representing this type the plan (Fig. 5) of one of a number of new wards shortly to be erected at the North-Eastern Hospital is reproduced. Within the subdivisions the beds are arranged in parallel, adjacent cot-heads being separated by a glass screen 7 feet high. Parallel spacing of beds is admittedly on trial. Various objections, such as difficulty of supervision have been urged. During the last measles epidemic the cots were arranged in parallel in a ward of the simplest "temporary" type at the North-Eastern Hospital. Twelve feet of space between

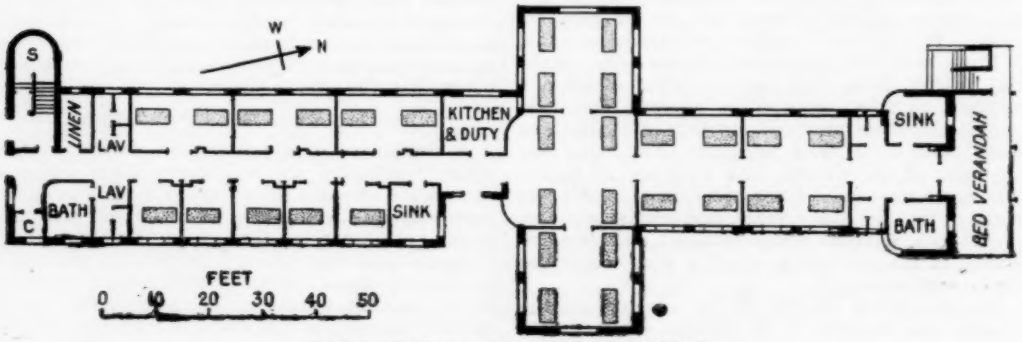

FIG. 5.—First-floor plan of a new ward block.

cot-heads was maintained, but, as the photographs (Figs. 6 and 7) show, no glass screen divided one patient from the next. The results of the experiment were entirely favourable. Draughts from the open windows were avoided and supervision presented no difficulties. The children were quite happy, making friends not with the next in line, but with those on the opposite side of the ward. The nurses were pleased with the arrangement. Owing to the fact that some 3 feet of space intervened between the wall of the ward and the side of the cot, access for nursing and cleansing purposes was easy.

FIG. 6.—General view of ward.

The large open undivided ward which implies many children at risk from extraneous infections of one kind or another must be considered as obsolete. But such wards must nevertheless remain for some time to come in many institutions. Rebuilding is only possible as and when financial resources permit.

The Spread of Infection

It is wise to assume that in children's wards any one child is a potential source of infection to any other. Therefore, if it is necessary when complete physical barriers separate one child from the next, as in isolation chambers, to adopt in addition a technique of aseptic nursing for each child whether itself deemed infective or not, still more does this become desirable in the open ward where no physical barriers exist. It is true that under the present conditions of staffing this practice is ordinarily impossible of attainment, but it is nevertheless the ideal which should be kept in view.

As Nabarro and Signy [29] point out, nurses who feed children should not be those who attend to their stools. This subdivision of duties has been in force for several years at, for example, the Birmingham Babies' Hospital. But no nurse should give any sort of attention to a child without scrubbing her hands before proceeding to the next patient. Even if sufficient numbers of nurses were available this procedure is unlikely to be carried out unless there is ample provision of surgeon's basins with running water. The mere provision of numerous nurses and of facilities for hand-washing is useless unless the fundamental importance of surgical cleanliness of the hands is not only realised but ingrained in the nursing staff. It is unreasonable to expect a girl to acquire within a few weeks those principles of aseptic nursing, the application of which may be literally vital in wards containing young children.

In all wards, whether barrier nursing is employed or not, convalescent children are a source of trouble. In barrier wards, they may, unless constantly supervised, break the barrier and become infected. In ordinary wards convalescent children are also at risk of infection or reinfection amongst themselves. Schlesinger [30] has emphasised the danger of spread of epidemic throat infections amongst rheumatic children when up and about.

Reinfection is particularly likely to occur when convalescent diphtheria or streptococcal carriers are aggregated in open wards for the treatment of the carrier state. Even long series of negative swabbings may be interrupted by the return of a positive result. This may be due to true intermittency of the carrier state but, under the circumstances, is quite as likely to be due to re-infection. Thus Anderson and his co-workers [31] have been able to isolate the gravis strain of the diphtheria bacillus from convalescent carriers who hitherto had only harboured the mitis strain; which is strong presumptive evidence of reinfection.

FIG. 7.—Beds spaced in parallel.

Many diphtheria carriers believed to be intermittent are in reality reinfected contact carriers.[32] Some years ago I tried masking diphtheria convalescents with a view to avoiding reinfection. The results, as seen in earlier clearance, appeared to be promising, but practical difficulties such as the speedy damping and soiling of the mask with resulting excoriation

of the skin, and the necessity for its removal during meal times, led to the abandonment of the practice. The only satisfactory way to accommodate diphtheria or hæmolytic streptococcal carriers whilst their treatment, operative or otherwise, is in progress is in single or very small wards. In open wards carriers are frequently artifacts.

The limitation of the *spread* of a specific infection following its inadvertent introduction into a children's ward necessitates :—

1. Prompt detection and segregation of the probable primary source of infection.
2. Determination, so far as possible, of the number of immunes and non-immunes to that particular infection amongst the remaining children in the ward.
3. Protection of the non-immunes by such specific prophylactic measures as are available or feasible.

The primary source of infection may be obvious ; a child is inadvertently admitted in the incubation stage of, for example, measles or chicken-pox, and in due course develops a clinical attack. But if the time which has elapsed between admission and the development of the attack exceeds the longest incubation period of the particular disease, the primary source is either a child who has suffered an abortive and unrecognised attack, the "missed" case, or a carrier amongst patients or staff.

Amongst the viral infections atypical attacks of mumps such as solitary sublingual or submaxillary forms are easily missed ; and the occasional neurotropism of the virus of chicken-pox is now generally accepted. The occurrence of a ward outbreak of chicken-pox following the appearance of herpes zoster has time and again been within my own experience.

In the case of the specific bacterial diseases, the primary source may again be obvious, but if not, owing to the availability of bacteriological methods for the detection of carriers can usually be traced.

Determination of the number of immunes and non-immunes remaining may be impossible or may be effected with considerable accuracy. It may be necessary to rely upon the history of previous attack as indicating immunity, but the degree of reliability of such histories varies much with the disease. It is not great in the case of measles owing to the extent to which this disease is confused with rubella. It is considerable in the case of whooping-cough ; the attack has not only been unmistakable but of such duration as to impress it upon the mother's memory. In two conditions the evidence of immunity may be read upon the skin. The cicatrices of variola or vaccinia and of varicella are, as a rule, characteristic in distribution and appearance.

In diphtheria and scarlet fever direct methods for the determination of immunity are available in the Schick and Dick tests, but they must always be combined with a search for carriers, since it is amongst the immunes that the chronic carrier will be found.

Passive Immunisation

Passive immunisation is of proved value against three of the common specific infections—diphtheria, scarlet fever, and measles—and of doubtful or at least of unproved value against mumps and chicken-pox. The great advantage of passive immunisation is the rapidity with which it is brought about. Its disadvantages are two : the temporary nature of the protection afforded and the possibility, where an animal serum is the vehicle of provoking or initiating by the injection of foreign protein, either anaphylactic or serum phenomena.

Against two only of the diseases mentioned above —diphtheria and scarlet fever—are animal antitoxic sera employed ; human serum has perforce to be injected in the case of the others. Within recent years the process of concentration or refinement of specific animal antisera, by reducing their protein content, has resulted in a notable diminution of serum troubles of any kind.

Diphtheria antitoxin has been available for prophylaxis for forty years, since it was in 1894 that Roux and Martin announced its production. The prophylactic dose which consists usually of from 1000 to 2000 units protects on the average for three weeks.

Scarlet fever antitoxin, as such, resulted from the work of the Dicks and of Dochez, and has been in use for about ten years. The prophylactic dosage of concentrated serum ranges, as a rule, from 5 to 10 c.cm. The duration of the protection afforded, although varying with different batches of serum which cannot be standardised with the accuracy which is possible in the case of diphtheria antitoxin, ranges between 10 and 14 days.

Scarlet fever antitoxin is now widely employed for prophylaxis in both fever hospitals and children's hospitals. Recently, J. G. Fitzgerald [33] has reported that at the Toronto Hospital for Sick Children all patients who are shown to be Dick-positive reactors at the time of admission receive a prophylactic dose of scarlet fever antitoxin. As a result of the practice, the incidence of scarlet fever in that institution is stated to be only one-tenth of what it was prior to its introduction.

MEASLES

The value of the seroprophylaxis of measles by the injection of human convalescent or adult-immune serum is now generally recognised. Convalescent serum has been in routine use for several years in large fever hospitals. Amongst the earliest to use it in the wards of children's hospitals were Nabarro and Signy.[34]

Convalescent measles serum is difficult to obtain in adequate supply. Hence it is fortunate that the value of adult-immune serum has been proved. It was first employed, so far as this country is concerned, in the wards of the Birmingham City Hospital in 1929.[35] The results of subsequent trials upon a large scale in London have been set out in a report [36] of the medical officer of the London County Council. Although inferior to convalescent serum for prevention it has a value for attenuation as great as that of convalescent serum. The dosage of measles serum must be regarded as tentative. Different batches of pooled serum vary considerably in their protective value.

CHICKEN-POX

Various attempts have been made to protect exposed susceptible children against chicken-pox by the injection of convalescent serum. Blackfan, Peters, and Conroy [37] were successful as was Weech.[38] Gordon and Meader [39] also claimed a considerable measure of success. Schmidt,[40] on the other hand, failed. Gunn,[41] more recently, found that pooled varicella serum had a definite protective value—inferior, however, to that of convalscent measles serum in the same doses. Amies [42] has identified in the vesicles of chicken-pox elementary bodies similar to the Paschen bodies in small-pox and has demonstrated specific agglutinins in the blood of convalescents. He thinks it may be possible by means of the agglutination reactions to detect those sera which have a high antibody content, thus making selection

instead of pooling possible. It is sincerely to be hoped that this, indeed, may be feasible, and that chicken-pox, the one common specific infection, which so far virtually defies all efforts at control, may at length become amenable to seroprophylaxis.

MUMPS

Similar suggestive results have been obtained in the seroprophylaxis of mumps by Hess,[43] Debré,[44] Regan,[45] Teissier,[46] de Lavergne and Florentin,[47] and by Gunn,[48] who thinks that the method is deserving of further trial.

Active Immunisation

In long-stay hospitals for children active immunisation against diphtheria of both staff and patients is practised increasingly often. So far as short and intermediate stay hospitals are concerned, active immunisation is ordinarily only applicable as an internal measure of control to the staff. Vaccination against small-pox, which is still insisted upon in most hospitals, and the inoculation with T.A.B. of those nurses who are attending to patients suffering from enteric group infections are well-established procedures.

Active immunisation of the staffs of fever hospitals against diphtheria was first introduced some 14 or 15 years ago at the Edinburgh [49] and Birmingham City Hospitals,[50] and is now adopted for the protection of the staffs of large numbers of hospitals of all types. Active immunisation against scarlet fever was also introduced several years ago in the same two fever hospitals [51] and, although not so generally practised, its value is undoubted.[52]

There is no evidence that active immunisation increases the carrier-rate amongst nurses. Although chronic carriers are always immune, the occurrence and persistence of the carrier state amongst the staff as the result of contact infections is, as was shown earlier in this lecture, closely connected with the existence of abnormal nasopharyngeal mucosa.

Conclusion

In these lectures the overwhelming importance of the upper respiratory tract as an actual or potential focus of infection has been emphasised. The problem of control of infection in children's wards virtually centres upon the upper respiratory tract.

Well ventilated, adequately spaced and subdivided wards with ample provision of isolation accommodation are essential. But no degree of architectural skill, no medical administrative measures, and no elaboration of technique can prevent entirely the transference of infection by human agencies.

The best-laid schemes may fail unless, in addition, the personnel is numerically and technically adequate to cope with the special dangers of infection which must inevitably attend the aggregation of children in hospital.†

REFERENCES

1. Colvin, M. G.: Amer. Jour. Hyg., 1932, xv., 247.
2. Long, P. H., Bliss, E. A., and Carpenter, H. M.: Bull. Johns Hopkins Hosp., 1932, li., 278.
3. Bliss, E. A., and Long, P. H.: Proc. Soc. Exp. Biol. and Med., 1933, xxxi., 31.
4. Martin, F.: Revue d'hyg., 1900, xxii., 633.
5. Martin, L.: Ibid., 1903, xxv., 256.
6. Hutinel, V.: Le Syndrome Malin, Paris, 1927, p. 275.
7. Pugh, W. T. G.: Metropolitan Asylum Board Ann. Rep., 1906, p. 6.
8. Goodall, E. W.: Ibid., 1910, p. 257.

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† In order to comply with the Council's standing orders it is necessary to state that the London County Council accepts no responsibility for the opinions or conclusions expressed by the author in these lectures.

DERMATITIS FROM DYED HAIR, FURS, AND FABRICS

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ONE of the recognised varieties of eczematous dermatitis is that in which a skin develops a specific hypersensitiveness towards one or more external agents which in themselves are harmless to the normal individual. The result of such idiosyncrasy differs in no way from ordinary constitutional eczematous dermatitis or from dermatitis due to non-specific hypersensitiveness and provoked by such forms of irritation as exposure, change of temperature, soaps, water, friction, or household chemicals.

Dye dermatoses are of this specific character. The reactions in themselves are not recognisable as forms of dye dermatitis—as was suggested in a recent medico-legal case—but the site of the eruption suggests hair, fur, or fabric dye as a probable cause. No final opinion can be given on these cases without

(*References continued from previous column*)

9. Chapin, C. V.: Sources and Modes of Infection, New York, 1910 and 1912; Amer. Jour. Pub. Health, 1912, ii., 135.
10. Crookshank, F. G.: Proc. Roy. Soc. Med., 1910, iii., 73.
11. Rundle, C., and Burton, A. H. G.: THE LANCET, 1912, i., 720.
12. Rundle, C.: Proc. Roy. Soc. Med., 1912, v., 171; THE LANCET, 1922, ii., 376.
13. Thomson, F. H., and Price, C., THE LANCET, 1914, i., 1669.
14. ,, ,, Ibid., 1916, i., 341.
15. Harries, E. H. R.: Ibid., 1922, ii., 376 and 1924, i., 491.
16. Glover, J. A.: Med. Res. Council Spec. Rep., Ser. No. 50, 1920.
17. Eagleton, A. J.: Jour. of Hyg., 1919, xviii., 264.
18. Kendrick, P., and Elderling, G.: Amer. Jour. Pub. Health, 1934, xxiv., 309.
19. Macdonald, H., and Macdonald, E. J.: Jour. Infect. Dis., 1933, liii., 328.
20. Dudley, S. F.: Med. Res. Council Spec. Rep., Ser. No. 111, 1926.
21. Crosbie, W. E.: Public Health, 1934, xlvii., 142.
22. Spence, J. C.: Trans. Med. Soc., Lond., 1934, lvii., 75.
23. Joe, A.: Ann. Rep. M.O., London County Council, 1933, vol. iv. (pt. i.), p. 103.
24. Christie, J. A.: THE LANCET, 1934, ii., 39.
25. Begg, N. D., and Mair, W.: Personal communication (unpublished).
26. Mackenzie, M. D.: League of Nations, Quart. Bull. Health Organisation, 1934, iii. (Extract 8), p. 220.
27. Proc. Amer. Acad. Pediat., Jour. of Pediat., 1934, iv., 418.
28. Murchison, C.: Med. Times and Gazette, 1864, i., 210.
29. Nabarro, D., and Signy, A. G.: Arch. Dis. Childhood, 1932, vii., 327.
30. Schlesinger, B.: Trans. Med. Soc. Lond., 1934, lvii., 75.
31. Anderson, J. S., Cooper, K. E., Happold, F. C., and McLeod, J. W.: Jour. Path. and Bact., 1933, xxxvi., 169.
32. Harries, E. H. R.: Ann. Rep. M.O. London County Council, 1933, vol. iv. (pt. iii.), p. 7.
33. Fitzgerald, J. G.: Canad. Pub. Health Jour., 1933, xxiv., 455.
34. Nabarro, D., and Signy, A. G.: THE LANCET, 1929, i., 1106.
35. Harries, E. H. R.: Med. Officer, 1930, xliii., 77.
36. Rep. M.O. London County Council on Measles Epidemic, 1931–32.
37. Blackfan, K. D., Peterson, M. F., and Conroy, F. C.: Ohio State Med. Jour., 1923, xix., 97.
38. Weech, A. A.: Jour. Amer. Med. Assoc., 1924, lxxxii., 1245.
39. Gordon, J. E., and Meader, F. M.: Ibid., 1929, xciii., 2013.
40. Schmidt, A.: Med. Klin., 1924, xx., 642.
41. Gunn, W.: Brit. Med. Jour., 1932, i., 183.
42. Amies, C. R.: THE LANCET, 1933, i., 1015.
43. Hess, S.: Amer. Jour. Dis. Child., 1915, x., 98.
44. Debré, R.: Bull. de l'Acad. de Méd., 1924, xci., 697.
45. Regan, J. C.: Jour. Amer. Med Assoc., 1925, lxxxiv., 279.
46. Teissier, P. J.: Bull. de l'Acad. de Méd., 1925, xciii., 369.
47. De Lavergne, V., and Florentin, P.: Paris méd., 1925, iv., 522.
48. Gunn, W.: Ann. Rep. M.O. London County Council, 1930, vol. iv. (pt. iii.), p. 51.
49. Benson, W. T.: Edin. Med. Jour., 1928, xxxv., 617.
50. Harries, E. H. R.: THE LANCET, 1930, i., 830.
51. Same author: Ann. Rep. M.O. London County Council, 1933, vol. iv. (pt. i.), p. 118.
52. Benson, W. T., and Rankin, A. L. K.: THE LANCET, 1934, ii., 1357.

investigation, and for this purpose the patch-test gives reliable and absolute evidence.

This test should be used as a routine in all cases of eczematous dermatitis in which specific sensitiveness to some external agent is suspected. A little of the suspected excitant—or more often a portion of lint moistened with a solution of the substance—is applied to the skin of the patient for 24 hours (or less if an active reaction is obvious). If the eczematous dermatitis is due to the substance of the patch-test, a positive eczematous reaction is seen at the time of removal of the test or within 24–48 hours, though it is wise to keep the subject under observation for longer than this if a negative result is to be accepted. If the lint becomes dry it should be moistened to ensure intimate contact. This is especially important in the case of dyed-fabric tests.

Experience has, however, taught me to use no more than one drop of a 1 per cent. solution of para-phenylenediamine in patch-testing a case of suspected hair or fur-dye dermatitis. If this is done the procedure will not be embarrassing.

INCIDENCE OF HYPERSENSITIVENESS TO DYESTUFFS

Hair and fur dyes.—In dye dermatitis it is commonly para- or meta-phenylenediamine, or allied substances, or one of their oxidation products, which is the external agent involved. In a previous communication the results of an investigation of the incidence of hypersensitiveness to para- and meta-phenylenediamine and their oxidation products were reported.[1] In this investigation 1000 patients were patch-tested with solutions of 1 per cent. para-phenylenediamine and with 1 per cent. and 5 per cent. solutions of meta-phenylenediamine, and it was found that about 4 per cent. of the patients showed evidence of hypersensitiveness, which was manifest at periods of 1–24 days after removal of the test. In the discussion upon these results the desirability of investigating a number of these cases by *repeated* test applications of the external agent was indicated and part of the purpose of the present paper is to describe an inquiry of this kind.

In all 45 patients were tested by repeated applications of a solution of 1 per cent. para-phenylenediamine. Of the 45, 15 were females and 30 males, of ages varying between eighteen and forty-five; 20 of these were normal subjects, 4 were known to be eczematous, 1 had suffered from urticaria and the remainder had lupus vulgaris. As in the previous investigation, the presence of some para-phenylenediamine in the patch-tests after the completion of the investigation, and the presence of Bandrowsky's base (indicated by blackening of patch-test and skin) showed that these, as well as intermediate oxidation products, had of necessity repeatedly come into contact with the skin of the patient investigated.

These patients, over 20 of whom had been patch-tested to para- and meta-phenylenediamine and were among the negative results in the previous investigation, were patch-tested with 1 per cent. para-phenylenediamine solution, applied daily to the upper arm by means of a linen and elastic cuff, for a period of approximately 12 hours, by day, and removed at night time over the course of a month. At intervals of a week the patch-test was resaturated with 1 per cent. para-phenylenediamine solution. In effect, the subjects investigated had a patch-test of para-phenylenediamine solution applied daily for 28–31 consecutive days, the tests, of course, being reapplied to the same sites each day. At the end of this period the applications were stopped and the subjects were kept under observation for a period of a month. In no case was any positive result recorded.

It was argued, in the previous communication,[1] that fur and hair-dye dermatitis are the result of idiosyncrasy in the patient, a view which is probably accepted by all dermatologists and in support of which there is abundant evidence. It would seem from this present investigation, that in addition to the fact that a very small proportion of normal subjects exhibit idiosyncrasy to these particular chemicals, hypersensitiveness is not readily provoked by the kind of repeated contact with these substances which ordinarily takes place.

Fabric dyes.—The very low incidence of dermatitis from dyed fabrics is an indication of the rarity of hypersensitiveness to these common dyestuffs.[2] On several occasions a dyed fabric which has provoked a single case of dermatitis has been patch-tested upon 100 normal subjects with negative results, and it has been customary in the skin department at the Leeds General Infirmary to use such fabrics as controls in making routine patch-tests. In no case has a positive result been obtained except in the case of the original sufferer.

DIAGNOSIS OF DYE DERMATITIS

In considering an eczematous eruption the points which suggest a dye dermatitis are the site, often an associated œdema, and the relationship of the onset to dyeing of hair, or wearing of a dyed fur or fabric. Sometimes the staining of the skin from dye dissolved out of a garment by sweat suggests this possibility, but it will be readily realised that none of these factors provide absolute criteria and usually the original diagnosis can be no more than tentative, to be confirmed or denied and corrected by subsequent observation and investigation.

Œdema, particularly affecting the eyes, is an important and common but not a constant accompaniment of dermatitis arising from the use of hair dyes and fur dyes. It is only rarely seen in any considerable degree in cases of fabric-dye dermatitis. In the latter the precise localisation of the eruption is much more valuable than in fur and hair-dye cases where localisation closely corresponds to that of seborrhœic eruptions and eruptions due to exposure to external irritation.

In the case of dyed frocks the limitation of the eruption to the upper trunk and arms where contact has occurred is often striking, the lower margins being defined by the upper limit of the petticoat and the skin lying under the shoulder straps escaping by an exact line of demarcation (Fig. 2). Another localisation of value and importance here is that of the axillary eruption which leaves the dome of the axilla clear, since contact occurs only below the axilla and round the axillary folds, whereas seborrhœic dermatoses show their maximum affection at the axillary apex (Figs. 3 and 4).

When eruptions are provoked by dyed socks, stockings, hat-bands, wristlets, &c., the limitations are usually suggestive. In the case of dermatitis from dyed shirts localisation may be less precise if that garment is worn next the skin, but the axillary eruption often gives the clue.

These affections commonly follow a first or early contact with the offending hair-dye, fur or garment, though it is well recognised that the development of specific hypersensitiveness may be considerably delayed. A patient may submit to the process of

[1] Ingram, Brit. Jour. Derm. and Syph., 1932, xliv., 422.

Killick, E. M., and Ingram, J. T., THE LANCET, 1933, i., 77.

hair dyeing repeatedly over the course of many years before she becomes intolerant. It should be stressed, however, that there is no evidence to suggest that a reaction may be delayed longer than a certain period, probably a month, after contact has ceased.

Dermatitis provoked by the phenylenediamines is more severe and acute than fabric-dye dermatitis and may give rise to secondary eruptions shortly after the onset of the initial affection or while that is subsiding. These are itching or eczematous dermatitis about the flexor aspects and flexures of the limbs, hands, and feet, or a toxic, morbilliform erythema with peripheral distribution, often widespread and distressing. It is difficult to determine whether these are manifestations of a general reactive eczematous sensitiveness, the skin acting as a single whole organ, or whether they are from absorption of inflammatory products of the initial eruption, or from absorption of the actual substances which have provoked the dermatitis. The latter seems probable since secondary manifestations may be present when the original disturbance has been relatively mild.

It is usual for patients suffering from dye dermatitis to recover readily when the cause is removed, but it must be recognised that the reaction may, for constitutional reasons, persist for months or years. Under such circumstances it is usually probable that if the dye had not done so, some other hazard would have provoked the constitutional breakdown or manifestations other than dermatological would have arisen.

Though a tentative diagnosis of dye dermatitis is commonly made, subsequent investigation and observation show that dye dermatitis of any type is rare. In a series of 8000 out-patients in the skin department at hospital I have seen no more than 16 cases of dermatitis due to dyestuffs. These figures do not include the occasional cases seen in dye-workers when numerous other factors enter into the ætiology, and it is rarely possible to attribute dermatitis to contact with dyestuffs alone. Of these 16 cases 6 were attributable to hair dyes, 3 to fur dyes, and 7 to fabric dyes, including 2 cases of dermatitis from the wearing of dyed khaki shirts. In a series of 4000 private cases 14 cases of dye dermatitis have been seen, 6 due to hair dyes, 4 to fur dyes, and 4 to fabric dyes. These figures may be relatively high because cases of medico-legal interest are specially directed to the dermatologist for an opinion; on the other hand it is probable that fewer cases are overlooked than in the rush of hospital practice.

FIG. 1.—Positive patch-test reaction to 1 per cent. paraphenylenediamine in a case of dermatitis from dyed fur coat worn for four years.

Taking these figures together, 30 cases of dye dermatitis have been seen in a series of 12,000 skin cases, 12 from hair dyes, 7 from fur dyes, and 11 from fabric dyes.

Consideration of the private cases, to which greater care can be devoted, shows some points of interest and emphasises the constitutional eczematous background in these as in all dermatitis cases. In all but 2 cases there was definite evidence of nervous instability, marked in 4 cases and manifest in 1 case in a recent history of nervous breakdown. In many cases the phase of instability could be ascribed to recent experiences. In 2 cases the condition was associated with shock and was provoked by the wearing of black garments for mourning, though in neither case was the bereavement the only shock. One patient had been seen with lichen planus twelve months before her attack of hair-dye dermatitis and another was subject to urticaria. Two of the cases of hair-dye dermatitis were at other times subject to fabric-dye dermatitis though one case only was seen in eruption.

The frequency of the relationship of dye dermatitis to domestic, environmental, and psychological disturbances suggests that the reaction may be regarded upon occasion as in the nature of an associated conditioned reflex reaction. These points, while not disproving the specific nature of the sensitiveness to dyestuffs, suggest that a heightened general physiological sensitiveness, especially with nervous and dermatological manifestations, predisposes to specific sensitiveness.

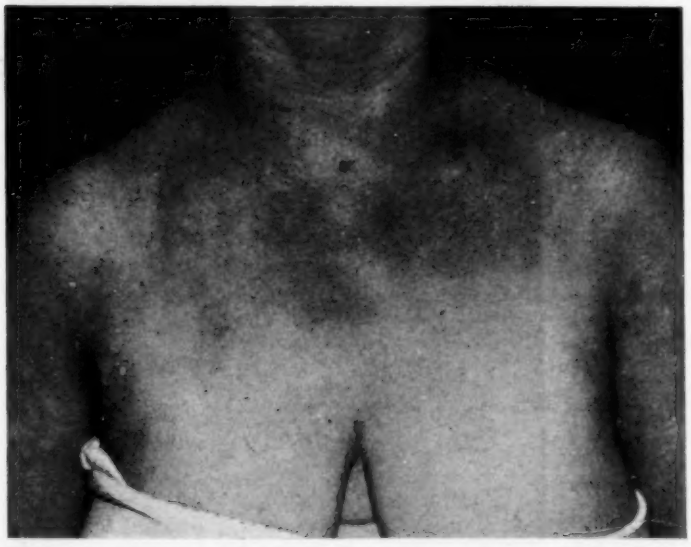

FIG. 2.—Distribution of fabric-dye dermatitis showing the eruption limited below by the upper edge of petticoat and not affecting the shoulder-strap areas.

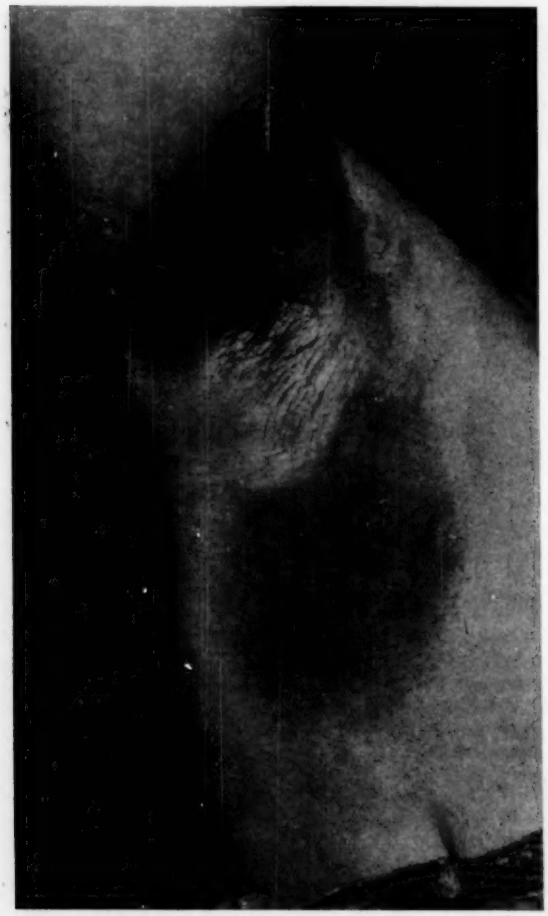

FIG. 3.—Axillary eruption in fabric-dye dermatitis (Case 4).

ILLUSTRATIVE CASES

The following cases illustrate some of the points to which reference has been made above.

CASE 1.—Mrs. A., aged 37, seen on Nov. 22nd, 1934, complained of an irritable eruption about the chin and neck of one month's duration. There was a scaling erythema of the sides and front of the neck and of the muzzle, limited above by the nasolabial folds. This was shown to be due to the wearing of a mole-coloured fur collar, black-tipped, and obviously brush-dyed. There was a marked positive patch-test reaction to the fur and to one drop of a 1 per cent. solution of para-phenylenediamine. The patient had not suspected this association. The fur was the only one owned by her. It had been bought two years previously, in September, 1932, had been worn each winter and had been worn this Autumn for about three months. It would be interesting to hear the judgment in such a case should the patient bring an action for damages.

CASE 2.—Miss B., a nervous patient aged 35, had used a hair dye (containing the phenylenediamines) three weeks before her visit. The following day she developed an eruption of her scalp which in three days was an acute, œdematous dermatitis of the whole head, face, and neck, with swelling of eyes, intense itching and malaise, and her hair was cut off. Within the following week a morbilliform erythematous eruption developed on the hands, forearms, thighs, eczematous in the flexures of elbows and axillæ. The trunk and feet itched and showed faint mottling. Two months later she was seen with an acute pompholyx immediately following the dyeing of a cushion.

CASE 3.—Mrs. C., aged 37, was seen with acute œdematous dermatitis of head, face, and neck, flexures of elbows and knees, breasts, buttocks, and feet. This had immediately followed dyeing of the hair (phenylenediamine), the patient having only had her hair dyed once, five years previously. Patch-tests to both para- and meta-phenylenediamine were embarrassingly positive. The patient was a highly neurotic Jewess, under aural and ophthalmic surgeons for nasal trouble and headaches. Some years previously she had an ovary removed. She had also been attending an out-patient physician for treatment of asthma but she gave no history of previous skin troubles.

CASE 4.—Mrs. D., aged 32, complained of attacks of itching, redness and swelling of the armpits over the course of three months, associated with the wearing of a green frock which had been dyed black. There was the acute, eczematous, saddle-shaped dermatitis of axillæ shown in Fig. 3, which completely avoided the apex of the axilla. A patch-test of the dress applied on July 29th, 1932, gave an acute positive reaction on July 30th, which was still recognisable a fortnight later. The patient perspired freely, and it is to be noted that the eruption only occurred at the sites of moist contact.

CASE 5.—Mrs. E., aged 46, presented an itching, scaling, erythematous eruption of upper chest and arms of four months' duration. The skin protected by the undergarments was not affected, but the patient had not suspected the cause of her eruption. She was therefore patch-tested against all her frocks—two flowered fabrics, one check, one light grey, and one black. She gave a marked positive reaction to the black fabric only and the eruption cleared following removal of the cause.

Black, brown, and khaki fabrics appear to be the commonest causes of this type of dermatitis.

FIG. 4.—Seborrhœic eczema of axilla—affecting the apex

SUMMARY AND CONCLUSIONS

No clinician could seriously suggest that the reaction of hair or fur-dye dermatitis or of fabric-dye dermatitis was not due to idiosyncrasy. The clinical evidence is support of this view is abundant, while the alternative suggestion that such conditions are due to an irritant substance (using the term irritant in the ordinary sense to mean something irritant to the majority of normal persons) serves only for purposes of legal argument and cannot stand up to serious clinical investigation. The workers in the dye industries are not subject to more dermatological troubles than other trades—whereas the irritant theory would make this industry an impossibility in practice.

The patient suffering from hair-dye dermatitis has often had exactly similar treatment on other occasions, and the same treatment is being carried out without ill-effect upon hundreds of other people. A patch-test in such a patient will produce an embarrassingly positive reaction, while the same patch-test in other subjects gives a negative result. The sufferer from fur-dye dermatitis can give her fur to a hundred other persons to wear and they will suffer no harm. The patient with fabric-dye dermatitis can be similarly generous with her offending dress without fear of provoking dermatitis and she is wearing material treated with dyestuffs which are in contact with the skins of thousands of individuals and are serving their legitimate purposes without injury.

Dye dermatitis, like plant dermatitis, or light dermatitis, and an infinite variety of other sensitisation reactions, is exactly analogous to urticaria produced by sensitisation to eggs, or to asthma resulting from sensitisation to roses. Most medical authorities probably appreciate this, if they do not always preach it; but it would mean the saving of enormous sums of money, of invaluable time and of much unnecessary ill-health if legal authorities could be persuaded to accept it. It is probably too much to hope for this until there has been a complete revision of the Workman's Compensation Act, in so far as it is related to dermatitis arising from "irritant dusts and liquids," and it is probably true that our terminology, often misleading in its dogmatism, prevents patient, doctor, and lawyer from viewing the subject in true perspective. The terms eczema, dermatitis, and eczematous dermatitis have been used as interchangeable terms in this paper for it is fundamental that the conception of any distinction between eczema and dermatitis should be broken down.

PROCTALGIA FUGAX

A LITTLE KNOWN FORM OF PAIN IN THE RECTUM

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LAST summer I was consulted by a colleague about pain in the rectal region, of which, although a diligent reader, he was unable to find any description in the literature to which he has access. It thus acquired a mysterious character, which added to his anxiety.

CASE 1.—The doctor referred to, who was 59 years of age, had always been in good health apart from the ordinary diseases of childhood. He had lived in St. Croix for a couple of years, but had never suffered from any tropical disease. He was able to eat all kinds of food and had no trouble with his bowels unless he drank much coffee, when the motions were rather loose. For three or four years he had suffered from quite unexpected pain without any suggestion of periodicity, which he referred to the rectum, always in the same place a little above the sphincter ani, but how far up he could not tell. The pain was not radiating; it appeared quite suddenly at intervals of days or months when least expected, generally in the daytime. It only occasionally awakened him in the night. It was described as gnawing pain, slight at first but increasing steadily to a considerable degree of severity, so that he had to lie down. He felt ill during the attack, but did not know whether he became pale. It disappeared quickly leaving behind no ill-effects whatever apart from some lassitude. The attacks were said to last for about two minutes.

I found nothing abnormal at the usual examination; a rectal exploration proved that everything was normal except that the sphincter ani was rather tight, which was due probably to the discomfort of the examination.

I had to confess to my colleague that I myself had not seen any report of these attacks of pain, but I was able to inform him that they were well known to me and gave him a description of them which he said corresponded with his own attacks. I have met with this pain a dozen times or so in my practice, but as I do not keep a card index of the diseases of my patients I can find the notes of only two cases treated during the last few years.

CASE 2.—A man, 47 years of age, previously healthy, was treated at St. Elisabeth's Hospital in 1928 for gastric ulcer (melæna). He had since had periods with slight symptoms of ulcer and some tendency to constipation. For at least ten years—that is, several years before the gastro-intestinal trouble occurred—he had been subject to quite unprovoked attacks of pain at intervals of some days or several months, which he referred to the rectum a little above the anus. The pain was always in the same place, it was not radiating but had a gnawing character and in the course of a few minutes became extremely violent, after which it quickly subsided. At the height of the attacks he often felt a kind of pulsation in the rectum. The pain was so violent that he could do nothing during the attack, but had to keep absolutely still or throw himself on to a sofa or chair. He became pale and cold, perspired, and at the same time was conscious of a tight sensation in the precordium or epigastrium which made him gasp for breath and gave him the impression that he was gravely ill. At first he always had only one attack, but later, two, following closely upon one another. They occurred generally in the morning, more rarely later in the day and were then less violent.

When the attack was over he felt perfectly well, though a little tired. The pain had no connexion whatever with meals or the state of the bowels, and was only occasionally associated with hard motions. He had consulted several doctors about these attacks, but examination never revealed anything abnormal—no hæmorrhoids or fissures; nor was I able to demonstrate any place in the sigmoid, rectum, or anal canal from which the pain could arise. Rectoscopy showed nothing abnormal. The attacks of pain had not prevented him from working and had become less frequent in the last few years. The patient is the director of a big firm.

CASE 3.—A married lady, 39 years of age. Treated in 1934 at St. Elisabeth's Hospital for bronchial asthma, bronchitis, and myalgia dorsi. For several years she had typical bronchial asthma as well as myalgic pains in back and chest. Lately, somewhat depressed and inclined to crying. No dyspepsia; bowels open daily, spontaneously. Rectovaginal examination revealed a retroflexed uterus and a slightly enlarged cystic right ovary.

For at least five or six years the patient is said to have suffered from sudden and inexplicable pain which she referred to a point about 10 cm. up in the rectum, definitely not to the anal ring, and always in the same place. The pain was convulsive in nature and increased steadily to a maximum, when she felt violent tension in the entire pelvic region. She grew pale and perspired and also felt a dragging sensation in the precordium or the upper part of the epigastrium which left her breathless; she often

fainted in an attack. The attacks were soon over, but she could not tell even approximately how long they lasted. She would say: "I do not know, but I suffer terribly while they last." On another occasion she said that they lasted at least ten minutes. The attacks occurred very irregularly at intervals of days or several months; the last severe attack was experienced about eighteen months previously, since when she had only had abortive attacks. She felt well after the attacks apart from lassitude, often very pronounced. She could not suggest any reason whatever for the occurrence of the attacks; at any rate they have no connexion at all with the state of her bowels.

Examination of the alimentary canal showed nothing abnormal apart from some atrophy of the skin round the anus; she had been suffering for a few years from pruritus ani. There were no hæmorrhoids or fissures. Rectal exploration and rectoscopy (30 cm.) disclosed nothing abnormal. She thought that the pain was located round the sigmoid flexure. It was impossible to find any point from which the attacks could have started. The spinal fluid was normal. Wassermann reaction negative.

In my experience these attacks of pain occur both in men and women. All my patients have been adults, and except two they all suffered from some gastro-intestinal disease for which they sought my help.

FEATURES OF THE ATTACKS

The characteristic features of these attacks are:—

1. Their quite unaccountable occurrence when the patient is in perfect health. They appear at very irregular intervals at all times of the day and night.

2. Their spontaneous disappearance without leaving behind any ill-effects except a quickly passing lassitude; more important still, they are not followed by disturbances of the intestinal function (constipation or diarrhœa).

3. The localisation of the pain in the rectal region above the sphincter ani, always at the same place in the same patient, but varying somewhat in different patients.

4. Their severity. In one of my patients, an otherwise healthy man, they had become so frequent and violent that he had discussed with a surgeon the possibility of having the nerves to the intestine severed. Another of my patients (see above) had fainted during the attacks. Mild attacks or abortive ones may however also occur.

5. Their short duration. In most of the cases the pain lasted only a very few minutes. One of the patients said however that it lasted about ten minutes (Case 3). In the same patient the duration of the attacks seems almost constant.

6. The pain is described as gnawing, aching, cramp-like, or stabbing and is often associated with a characteristic tight sensation in the epigastrium or precordium, which makes the patients gasp for breath and gives them the impression of being gravely ill. It is neither preceded by nor followed by tenesmus, nor by flatus or paræsthesia in the rectum or anal region, and it is very seldom of a radiating character.

As a rule the patients had had the pain for several years and could give no conceivable reason for its occurrence, nor was I able to associate it with any definite disease. One of the patients suffered from gastric ulcer, another from colitis with dyspepsia, one from bronchial asthma, and one man was otherwise in perfect health. On some of the patients dilatatio ani violenta had been performed without any relief whatever. One woman was operated on for a retroflexed uterus without result.

I have carefully examined all these patients, except the colleague referred to, including rectoscopy and rectal exploration, but always with an entirely negative result. I have not been able to find any change in the anal region, rectum, or accessible portion of sigmoid flexure which might explain the origin of the pain. I have unfortunately never been able to examine the patients during an attack. But perhaps an examination would be impossible at such a time.

NATURE OF THE CONDITION

The negative result seems to indicate that the pain is of nervous origin. The attacks have nothing in common with the pain associated with anal fissure, hæmorrhoids, coccydynia, or proctitis; they are not associated with tenesmus, nor are they caused by defæcation.

If we assume, and this is the most reasonable explanation, that these attacks of pain have a nervous origin, the question arises whether we can place them among any of the known forms of nervous pain in the rectum—the organ which is clearly the seat of the pain. I have found no mention of it in the Danish, English, French, and American text-books and monographs to which I have access. In 1907 Albu described 5 cases of rectal neuralgia (Mastdarm-neuralgie), and stated that the American investigator, S. G. Gant, had given a detailed description of this complaint in his book on diseases of the rectum and anus (published in 1904), a book which I have failed to obtain, but I shall revert later to Gant's description of rectal neuralgia. According to Albu's description—he says that he has been unable to find any mention of it in the German literature—rectal neuralgia is characterised by pain which is intermittent or remittent and located in the rectum from which it radiates to the hip, perineum, and sometimes even down the legs. The duration of the pain varies greatly, from minutes to days, and may recur several times a day.[1] The pain had no relation to defæcation or functional intestinal disorders (constipation or diarrhœa) and occurred in decidedly neurasthenic individuals. Unfortunately Albu does not give the history of his cases, but mentions one where "the rectal neuralgia" was due to cancer of the prostate and was therefore not genuine rectal neuralgia. I will give a brief summary of the history of this case:

A man, 55 years of age, had suffered on and off for several months from violent pain in the rectum and perineum, which at times spread out into the back, but mostly into the right hip and thigh. The pain varied in intensity and could disappear completely, but might be so violent that the patient had no peace by day or night. The pain can therefore be very protracted.

Albu further states that tabetic anal crises can resemble what he understands by rectal neuralgia; I shall return to this point later. Pickardt reported 2 cases of nervous rectal pain, occurring after rectal gonorrhœa, and pointed out the analogy with Albu's rectal neuralgia. It has nothing in common with the attacks of pain we are dealing with, but resembles closely the neurasthenic rectal pain. In A. D. Schmidt's "Klinik der Darmkrankheiten" (1913) neuralgia of the rectum is described as follows: "Wenn wir von den bereits erwähnten Crises anales der Tabiker und der Coccygodynie absehen, kommen neuralgische Schmerzen des Rectums und der Anusgegend nicht allzu selten vor. Sie gehen aus den Hyperæsthesien und Paræsthesien dieser Gegend hervor und kombinieren sich mit ihnen." In his work "Constipation and Allied Intestinal Disorders" the American author S. G. Gant, referred to above, cites some cases of rectal neuralgia in constipated patients, which in no way resemble proctalgia fugax, but correspond far better to Albu's description of rectal neuralgia.

[1] The fact that Albu was able to examine his patients during the attacks points to their lasting much longer than those reported here.

There can hardly be any doubt that the rectal pain described by Albu, A. D. Schmidt, Pickardt, and Gant is the same disease. The common characteristic feature of the neuralgia—namely, the intermittent and remittent occurrence of *radiating* pain—is easily recognised from Albu's description. A. D. Schmidt, on the other hand, lays more stress on the paræsthesia and hyperæsthesia so often associated with the neuralgic pain than on the pain itself. The clinical picture briefly described by him corresponds, according to my experience, to the frequently occurring nervous rectal pain. It usually has more the character of paræsthesia and is described as gnawing, burning, or smarting pain which radiates from the rectum to the perineum, genitalia, or sacral region. And although it varies in intensity, its almost constant presence and its resistance to treatment are just the things which make these patients the perpetual despair of many doctors. A patient whom I recently treated for such nervous rectal pain, who was a pronounced neurasthenic, gave it a rather characteristic name—"smouldering pain"—by which he meant that the pain was not particularly severe, but felt like a continuous gnawing in the rectum, spreading out to the genitalia, but of variable intensity.

From the description I have given of proctalgia fugax it is clear that the clinical picture of this disease is quite different from that of rectal neuralgia.

Albu states that rectal neuralgia can be confused with the anal crises in tabes. Lewandowsky gives the following brief description of the latter: "by rectal crises are meant attacks of pain in the rectum associated with a sensation as if a wedge had been shot into the anus." Pierre Marie (Charcot, Bouchard, and Brisseau, Traité de Médecine, 1904) describes the intestinal crises in tabes as being attended by diarrhœa, rectal tenesmus, or hæmorrhage from the anus. Quite apart from the fact that none of the present patients were tabetics or that I have any recollection of any of my other patients being such, proctalgia fugax bears no resemblance to either Lewandowsky's or Pierre Marie's description of anal or intestinal crises in tabes.

But in addition to this nervous rectal pain yet another form of nervous abdominal pain is described under the title "nervous enteralgia or neuralgia of the mesenteric plexus." I have only seen this variety of pain described in German manuals and textbooks (Nothnagel, Strassburger, A. D. Schmidt), never in the Danish, French, English, or American books which have been available to me. Nervous enteralgia, which in earlier days played an important rôle (see Romberg: Lehrbuch der Nervenkrankheiten, 1846), has of later years lost considerable ground. And A. D. Schmidt writes: "selbständige ätiologisch auf andere Weise nicht zu erklärende nervöse Enteralgien habe ich selbst nie beobachtet." I must refer to Strassburger's and Nothnagel's descriptions of the nervous enteralgia which consists of attacks lasting for a longer or shorter period (days), radiates, and is often preceded or followed by slight abdominal pain. The term nervous enteralgia is undoubtedly a scrap-heap, and the attacks of pain described by the above-named authors either include pain in other parts than the intestine—e.g., duodenal or gastric ulcer—or they are the spasmodic pain of spastic constipation, mucomembranous colitis, or lead colic, which are probably due to intestinal spasm. Proctalgia fugax quite lacks the radiating character which these attacks of pain mostly possess, while the abortive attacks are entirely absent before and after the actual severe attack which is of much shorter duration.

It has thus been impossible to find any description which would fit this disease. That it is of nervous origin, is, as already suggested, probable, and it seems most likely that proctalgia fugax is caused by a spasm. This spasm cannot occur in the sphincter ani—even if such a purely functional spasm of this muscle exists at all. Nothnagel maintains that anal spasm is always secondary. The present patients and, as far as I can recollect, all the other patients I have seen, were absolutely sure that the pain was situated above the anal region. The pain in this region is indeed quite familiar to most people and sufficiently characteristic to be identified. If therefore proctalgia fugax is due to spasm, it must be located in the rectum above the anal region or in the lowest part of the sigmoid flexure.

The course of the disease varies very considerably. One patient, an otherwise healthy woman, told me that she had had three attacks in the course of one year; subsequently she felt no trace of pain until many years later when she had a severe attack accompanied by profuse sweating. Other patients suffered for years from attacks which then ceased for a long time, but I have formed the impression that they become less frequent and milder as time goes on.

The *ætiology* of proctalgia fugax is quite unknown; in fact we cannot even determine with certainty whether the pain is primarily nervous or reflected. I think I can say definitely that none of the above-mentioned patients were neurasthenics.

It is of course difficult to devise a *treatment* for attacks of pain of such short duration and of such varying frequency as proctalgia fugax. One would naturally regulate the function of the intestine if it was out of order, ut aliquid fiat, and if the pain occurs fairly frequently an attempt might be made to stop it by giving belladonna, luminal, or codeine. Most of the patients I have seen have been content to learn that the attacks of pain were not a sign of any serious illness and did not lead to any.

I propose to call this morbid condition "proctalgia fugax." I am aware that it is a philological heresy to couple a Latin adjective with a Greek substantive, but for one thing it is a very common combination in the names of medical diseases—e.g., erythema fugax—and moreover the term has the advantage that it does not suggest any particular origin of the pain. When asked why I call these attacks of pain proctalgia, I can only answer that it is because the patients themselves refer the pain to the rectum. Moreover, I cannot think of any other organ in the pelvis, common to both sexes, where the pain might be located.

Addendum

Since the publication of my first account of proctalgia fugax in *Hospitalstidende* (1935, No. 3, p. 73) six colleagues have published or informed me privately of their personal experiences. I shall cite some of these cases.

Dr. A. B., aged 42, writes: I have searched in books and asked other physicians about it, but nobody has been able to tell me anything about this perplexing affection with which I have been troubled for the last 6–7 years—fortunately, less often during the past year. Your description of the condition is excellent, but I would like to add a few remarks about my own case. The first attack set in at night after coitus. Since then the pain has again appeared a few times after coitus; but otherwise it sets in without any provocation whatever, most often

at night. I have been sound asleep and suddenly I wake up, feeling this excruciating pain in the rectum: at first faintly, then gradually increasing to an agonizing strain which may be so violent that once I fainted from it. I cannot say that the pain is accompanied by a need of defæcation, yet it feels as if I might be relieved if the bowels would move because the rectal strain or pressure is so severe. After the pain has lasted some minutes, it begins to subside and finally disappears, giving way to a state of fatigue coupled with profound gratitude for the end of the agonising minutes. These attacks were never followed by defæcation, nor by urination.

After the first attack it was natural to think of a spasmodic condition of the prostate, but rectal exploration has revealed no abnormality. Nor, as a rule, have I been able to think of any exciting cause of the attack. When it is at its height I feel a longing for a rather hot soapsud enema, but then there is no time to get it ready or do anything. At first I used to go to the w.c. whenever one set in, but as there was no passage of fæces, flatus, or urine, and since I once fell on the floor in a faint, I now lie flat on my back in bed. As regards constitution, I may tell you that I am rather easily upset, and that I have a disposition to migraine and to "neurosis," sometimes cardiac and sometimes gastro-intestinal.

Dr. C. D., aged 47, writes: I have been much interested in reading your paper on proctalgia fugax, a condition my mother and I are painfully acquainted with; I have been troubled with such attacks for about ten years. In both my mother's case and my own the attacks set in most often at night, so that we wake up with pain. Then the pain increases in intensity till it reaches a climax, after which it again subsides. It lasts from 10 to 15 minutes and is always in the same place. The pain is very distressing, so fierce at its height that one is almost crazy with it. I turn pale and sweat profusely. I have tried to examine my rectum during the attack but I have been unable to feel anything wrong. In the last attack the pain began in the left side and passed in front of the rectum over to the right side, while it *subsided in the left side.* I have never noticed such a passage of the pain before.

All treatment has been without any effect. I have tried defæcation, hæmorrhoidal ointment containing percaine, digital massage, but all without avail. My mother sits down on the edge of a hard chair and thinks it helps. The attacks have come twice or thrice a year, except for one year when they stayed away altogether. I have twice had a sensation of an approaching attack in the daytime but it kept away. For the sake of completeness I may tell you that I have a small fissure of the mucous membrane that bleeds a little now and then, but it never hurts, and it does not appear to be in any way connected with the attacks. Nor are the attacks associated with any disorder of the bowel.

Dr. E. F., aged 70, writes: Proctalgia fugax! Excellent—now I know a fine name for an affection I have been acquainted with personally for a good many years, nearly always at night and not with such violent manifestations as encountered in some of your cases, but disagreeable enough whenever it makes its appearance, fortunately at long intervals. You are right, it has nothing to do with the anal opening; it seems to be located higher up, and it feels more like a spasm. If I am to compare it with anything else it will be with cramps of the legs, with which I am troubled with now and then—though it has no connexion with the proctalgia.

I just wonder whether this phenomenon—or whatever one should call it—will not turn out to be rather common now you have drawn attention to it. I have met it twice in my practice; I do not remember any details of one of these cases, but the other patient was a former sailor, 50 years old, who described the pain as being exceedingly severe.

The information now available on the whole confirms my description of proctalgia fugax. But the attacks may evidently last considerably longer than I stated at first, for a colleague of mine estimates the maximal duration at one hour. The suggestion that the pain may be relieved by change of posture is new to me: one patient is relieved by lying flat on his belly, another on his back, and a third on his side. Moreover, among the latest additional cases, there are two instances in which proctalgia fugax has occurred in the mother or father and in the child.

Another important point is now elucidated more fully. I stated above that the attacks of pain can scarcely be attributable to anal spasm. This view is confirmed by three of the patients who have explored their rectum during the attacks without being able to feel any spasm of the anal region. The only positive finding was that one patient thought he was able to detect some swollen veins in the rectum.

REFERENCES

Gant, S. G.: Constipation, &c., Philadelphia, 1909, p. 142.
Marie, P.: Traité de Médecine (Charcot-Brisseaud), 1904, vol. vi., p. 377.
Lewandowsky, M.: Handbuch d. Neurologie, Berlin, 1911, vol. ii., p. 982.
Nothnagel, H.: Erkrankungen des Darms und des Peritonæums, Vienna, 1898, p. 489.
Schmidt, A. D.: Klinik d. Darmkrankheiten, Wiesbaden, 1913, p. 628.
Strassburger, I.: Handbuch d. inn. Medizin (Bergmann und Stähelin), Berlin, 1926, vol. ii., p. 433.

THE TREATMENT OF TETANUS WITH CONTINUOUS AVERTIN ANÆSTHESIA

WITH A REPORT OF A CASE

By Leslie Cole, M.D. Camb., F.R.C.P. Lond.
HON. PHYSICIAN TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE

In tetanus, treatment should be directed along three lines:—

(1) The prevention of any further absorption of toxin by the central nervous system. (2) The control of reflex spasms, which kill by exhaustion or by respiratory spasm and suffocation. (3) The giving of sufficient fluid and food.

Further absorption of toxin which is already present in the wound or in the circulating blood can probably be prevented by giving a large intravenous dose of antitoxin (100,000 to 200,000 international units), and after an interval cleansing or excising the wound. It is not likely that anything can be gained by giving repeated doses of antitoxin. Cole and Spooner [1] have shown that after a single injection of 200,000 units there are still over 10 units per c.cm. in the blood seven days later and 3–5 units per c.cm. fourteen days later. There is no convincing evidence that the injection of antitoxin by the intrathecal or any other route can effect toxin which has reached the cells of the central nervous system. Both theoretical and clinical evidence suggest that the intravenous route is best for neutralising toxin which is still circulating. Lumbar puncture is to be avoided at all costs.

Many drugs have been tried for the control of reflex spasms. Avertin was used in 1928 by Lawen [2] and Lindemann.[3] Momburg and Rotthaus [4] in 1929 gave 63·8 g. during a period of twelve days to a child weighing 20 kg., and were of the opinion that the relief afforded in this case by Avertin during the acute stages of the illness was greater than they had ever witnessed from other sedatives in similar conditions. Since then, many clinicians have given favourable reports of its action.

I have used avertin in 10 cases of tetanus since 1930 [1 5] and have found it better than any other sedative. In severe cases, doses of 0·1 c.cm. per kg. control the reflex spasms completely for periods of from two

to six hours and produce relaxation of the jaw and lessening of the tonic rigidity. No ill-effects have followed the above dose given daily for eight consecutive days, and four such doses in 24 hours have given rise to no ill-effects. In no previous case, however, have doses approaching that used in the present case been given.

CASE RECORD

Baby A., aged six and a half days; second child; male. Labour normal. Weight at birth 7 lb. The cord separated on the fifth day after birth. It was dressed with cotton wool before separation and "rag" afterwards. Progress was normal and he took the breast well until six and a half days after birth. It was then noticed that he could not suck and that the jaws seemed to be stiff and the mouth could not be opened. Twelve hours later he was still unable to suck or swallow and he appeared to be stiff in spasms. These symptoms became steadily worse, and he was unable to take any food up to the time of admission to hospital, 36 hours after the onset, when he was 8 days old.

State on admission.—Marked physiological jaundice. Purulent discharge from umbilicus. Trismus and risus

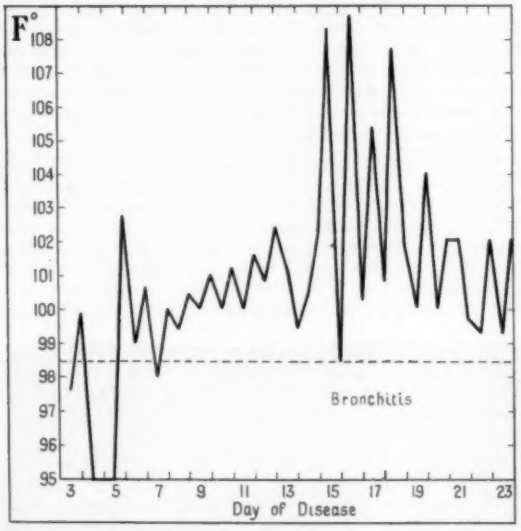

FIG. 1.—Reduced four-hourly temperature chart showing highest and lowest temperature recorded each day (rectal).

sardonicus with complete inability to swallow fluids. Generalised reflex spasms of great severity with opisthotonus occurring every five minutes. These spasms lasted for periods up to two minutes and involved particularly the muscles of the chest, abdomen, and diaphragm so that respiration was completely stopped and cyanosis was extreme. It was clear that if these spasms were allowed to go on they must prove fatal in a few hours at most. They occurred without any apparent stimulus, but were brought on and made worse by manipulation.

Treatment.—The child was anæsthetised with open ether and oxygen. 100,000 units (int.) were given intravenously through the anterior fontanelle and 0·3 c.cm. of avertin was given rectally. Subcutaneous saline, 80 c.cm., was also given. Later the umbilicus was cleaned with hydrogen peroxide, and hydrogen peroxide dressings applied. A stomach tube was passed nasally and left in situ, but some difficulty was experienced in feeding during the first twelve hours.

Progress.—Avertin was found to give complete relaxation and freedom from spasms for periods of from four to eight hours, according to the phase of the illness and the size of the dose. Up to the 9th day larger and more frequent doses of avertin were required, but from then onwards it was found possible to reduce the dose gradually. Immediately the spasms began to recur a further dose of avertin was given, the length of the period of freedom from spasms and the apparent severity with which they started to recur when the effects of the avertin began to wear off, being the criteria on which the next dose was estimated. In

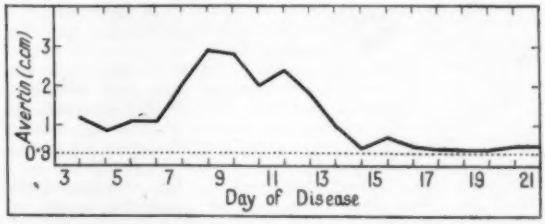

FIG. 2.—Chart showing daily dosage of avertin given.

this way, for the rest of the illness except on a few occasions, severe spasms were prevented. The few which did occur were due to too long an interval between successive doses of avertin. After the 13th day the spasms were clearly less severe, and avertin was not given so frequently, but only when the spasms appeared to be coming on with particular severity. Avertin was finally stopped on the 25th day of the disease.

After the 5th day cyanosis and shallow breathing became more and more marked after each dose of avertin. Warmed nasal oxygen relieved the cyanosis at once. From the 5th to the 20th day it was found necessary to give oxygen in this way for about six hours in every 24, and from the 8th to the 12th day it was given almost continuously. From the 15th to the 20th day there was considerable bronchitis and this probably made the cyanosis worse. Other complications were severe œdema of the scrotum from the 8th to the 12th day, and irritation and prolapse of the rectum on the 12th day, which rapidly cleared up when the dose of avertin was reduced. A slight erythematous rash appeared on the 9th day and gradually faded. This was probably due to the serum which had been given. A pressure sore on the hip was

Table showing Dosage of Avertin and Diet during the First Twenty-five Days of the Illness

Day of disease.	Amount of food in 24 hours.	Doses of avertin given.	Total amount of avertin given.
1st ..	..	..	..
2nd ..	..	..	..
3rd ..	Subcut. saline 80 c.cm.	0·3, 0·5, 0·4 c.cm.	1·2 c.cm
4th ..	Subcut. saline 210 c.cm. Milk (Trufood) 7½ oz.	0·4, 0·3, 0·2 c.cm.	0·9 ,,
5th ..	Milk 11½ oz.	0·3, 0·4, 0·4	1·1 ,,
6th ..	,, 12½ ,,	0·3, 0·4, 0·4	1·1 ,,
7th ..	,, 7 ,,	0·4, 0·4, 0·4, 0·4, 0·4	2·0 ,,
8th ..	,, 14 ,,	0·5, 0·4, 0·5, 0·5, 0·5, 0·5	2·9 ,,
9th ..	,, 12 ,,	0·5, 0·5, 0·4, 0·4, 0·5, 0·5	2·8 ,,
10th ..	,, 11 ,,	0·5, 0·5, 0·5, 0·5	2·0 ,,
11th ..	,, 12½ ,,	0·5, 0·5, 0·5, 0·5, 0·4	2·4 ,,
12th ..	,, 14½ ,,	0·4, 0·5, 0·5, 0·4	1·8 ,,
13th ..	,, 18 ,,	0·3, 0·3, 0·4	1·0 ,,
14th ..	,, 12 ,,	0·4	0·4 ,,
15th ..	,, 7 ,,	0·4, 0·3	0·7 ,,
16th ..	,, 15 ,,	0·3, 0·2	0·5 ,,
17th ..	,, 16 ,,	0·2, 0·2	0·4 ,,
	Subcut. saline 90 c.cm.		
18th ..	Milk 18 oz.	0·2, 0·2	0·4 ,,
19th ..	,, 14 ,,	0·2, 0·2	0·4 ,,
20th ..	,, 15½ ,,	0·2, 0·3	0·5 ,,
21st ..	,, 13½ ,,	0·3, 0·2	0·5 ,,
22nd ..	,, 18 ,,	0·3	0·3 ,,
23rd ..	,, 15½ ,,	0·3, 0·2	0·5 ,,
24th ..	,, 17 ,,	0·2	0·2 ,,
25th ..	,, 16 ,,	0·2, 0·2	0·4 ,,
Theoretical caloric requirement per day 300 calories (given by 15 ounces of milk).		Total avertin	24·4 c.cm.
		Dose of avertin for basal anæsthesia 0·3 c.cm. (0·1 c.cm. per kg.)	

troublesome in the fourth week. Vomiting after feeds in the fourth week was immediately relieved by a stomach wash out.

After the 4th day, little difficulty was experienced with feeding. The feeds were given hourly, and the tube was removed once daily to be cleaned, but was immediately replaced. Extra subcutaneous saline was given on the 17th day, because the weather was intensely hot and the child seemed a little dehydrated.

The temperature chart (Fig. 1) shows the hyperpyrexia which occurred on three successive days and which is characteristic of severe tetanus. Details of the treatment with avertin and feeding are shown in the Table and Fig. 2. The reflex spasms grew gradually less after the avertin had been stopped and ceased on the 35th day. The tonic rigidity then grew gradually less and passed off about the 44th day. The general condition began to improve in the fourth week. On the 25th day the weight was 6 lb. 12 oz., and from then onwards the child gained steadily, being 7lb. 12 oz. on the 46th day, 8 lb. 7 oz. on the 57th day, and 9 lb. 3 oz. at ten weeks. The urine tested on the 30th day was found to be normal. At the age of two months the child appeared to be normal in every way and showed no sign of any mental abnormality or backwardness. The bowels were normal throughout the illness.

DISCUSSION

In the present case avertin produced complete control of the reflex spasms, relaxation of the jaw, and lessening of the tonic rigidity about ten minutes after it had been given. Such relief was maintained for from four to eight hours according to the dose given, and the phase of the disease. The only ill-effect which appeared to be directly due to the avertin was that on the respirations which became increasingly rapid and shallow about ten minutes after it had been given, and cyanosis came on within half an hour. The cyanosis was relieved by nasal oxygen, which had to be given more and more frequently and continuously as the illness progressed. The rectal irritation caused by the repeated doses cleared up quickly directly the doses were reduced in size and frequency. Apart from the above no ill-effects were noted.

It is interesting to note that the curve of dosage, which was determined solely by the period of freedom from spasms after each dose, showed a steady rise to a maximum on the 9th day, and then a steady fall showing that after the first symptoms appear it is many days before toxin produces its full effects, and that these only subside gradually.

The problem of giving sufficient fluid and food in tetanus is a difficult one on account of the combination of trismus and inability to swallow which is present in so many severe cases, and the fact that unless the reflex spasms are under complete control any attempt to feed brings them on. In the present case, the control of the spasms was so satisfactory that a stomach tube could be passed easily by the nasal route. By feeding at hourly intervals it was found possible to give the correct diet for the age and weight on most days. It should be noted that the child was unable to swallow any fluid until the 21st day of the disease. In a previous severe case in an adult, in which swallowing was impossible, I was able to pass a stomach tube under avertin so that the patient could be fed. In this patient the dose of avertin was not repeated for fear of giving an overdose and death took place during respiratory spasm.

How great is the danger of giving large and repeated doses of avertin is not yet known. Parsons [7] has shown that a dose of 0·475 g. per kg. produced fatty degeneration of the liver in a rabbit, so that the danger of toxic effects on the liver must not be overlooked. It is possible too that large and repeated doses given for many days may lead to dangerous cumulative effects. Some patients too may have an idiosyncrasy to the drug. Boyd [10] states that children stand avertin in ordinary doses particularly well. It is possible that very large doses in adults may be more dangerous and less effective. Such considerations emphasise the need for caution in giving large and repeated doses.

I have recently given 0·5 c.cm. per kg. in 27 hours to a five-year-old child with tetanus complicated by lobar pneumonia. Death took place 24 hours later, and histological examination of the heart muscle, liver, and kidney showed that they were normal.

Curare has been tried for the relief of spasms in tetanus,[6] and curarine has been used for the control of the spasms of experimental tetanus in rabbits [8] and has been suggested for human tetanus.[9] The results in this case suggest that avertin used in large doses may do all or more than has been hoped of curare or its derivatives, and that its use may be fraught with less risk.

In considering the result in this case, the exceptional severity of the infection should be remembered. The incubation period could not have been more than six and a half days and was very likely less. The period of onset was not longer than 30 hours, and was probably less. The respiratory spasm was so severe on the second day, that had they not been controlled the child must have died in a few hours at most. Hyperpyrexia occurred on three successive days, the reflex spasms lasted for 35 days, and the tonic rigidity for 44 days. In a series of 22 cases of tetanus which I have treated on the same lines as this case, but without avertin or with comparatively small doses, no case with a period of onset of 48 hours or less has survived longer than five days.

SUMMARY

A case of severe tetanus neonatorum with recovery is described. Treatment consisted of one large initial dose of intravenous antitoxin followed by continuous anæsthesia with avertin for 11 days and smaller doses for a further 12 days. Nasal oxygen was given continuously for long periods and a normal diet by stomach tube which was left in situ. A total of 19·2 c.cm. of avertin was given in the first 11 days, and 24·4 c.cm. altogether in 23 days. The weight of the child was 6–7 pounds.

It is suggested that treatment on the above lines with large and frequent doses of avertin will prove of great value in the treatment of severe cases of tetanus. The need for caution in giving such large doses is emphasised.

REFERENCES

1. Cole, L., and Spooner, E. T. C.: Quart. Jour. Med., 1935, n.s., No. 15, p. 295.
2. Lawen, A.: Zentralbl. f. Chir., 1928, lv., 194.
3. Lindemann, Z.: Ibid., 1929, lvi., 1282.
4. Momburg, F., and Rotthaus, E.: Deut. med. Woch., 1929, xxii., 1164.
5. Cole, L.: Brit. Med. Jour., 1932, i., 743.
6. Cole, L.: THE LANCET, 1934, ii., 475.
7. Parsons, F. B. (quoted by Willcox): THE LANCET, 1931, ii., 60.
8. Florey, W. H., Harding, H. E., and Fildes, P.: THE LANCET, 1934, ii., 1036.
9. West, R.: Proc. Roy. Soc. Med., 1935, xxviii., 41.
10. Boyd, J.: Brit. Med. Jour., 1935, i., 1120.

INSTITUTE OF MEDICAL PSYCHOLOGY.—Dr. J. A. Hadfield, lecturer in mental hygiene at King's College, London, has been appointed director of studies at this institute (formerly the Tavistock-square Clinic). The increase of educational work carried out by the institute has made it necessary to create this post.

CLINICAL AND LABORATORY NOTES

TETANUS IN A CHILD AGED TWENTY-THREE MONTHS

SUCCESSFULLY TREATED WITH ANTITETANIC SERUM

By J. D. Spillane, M.B., B.Sc. Wales

LATE RESIDENT MEDICAL OFFICER, LLANDOUGH HOSPITAL, PENARTH, GLAMORGAN

THE following case is reported because tetanus in young children is now fortunately rare, and because it illustrates the successful use of antitetanic serum in large doses, although the patient had been ill for three weeks before treatment began. In all, 232,000 units of antitetanic serum were introduced, including 212,000 units intrathecally.

The child, aged 23 months, was admitted to Llandough Hospital on Dec. 21st, 1934. Three weeks previously, when in good health, he had begun to have difficulty in opening his mouth and taking food. Teething was thought to be the cause, but as the condition became more obvious in the next few days the family doctor was called in. He had great difficulty in opening the mouth, the jaws being held tightly clenched. No other abnormal sign was found. During a similar examination next day the patient went into a state of generalised tonic spasm with a prolapse of the rectum. Cyanosis was present and the breath was held, but no clonic spasms occurred. During the following fortnight the patient remained in a state of more or less generalised tonic spasm punctuated at intervals with exacerbations, during which the neck would be thrown back and a condition of opisthotonus produced. During such an attack sweating was profuse and urine voided. The attacks occurred two or three times daily.

On admission the patient was lying on his back with a frightened face and limbs fully flexed (see Figure). Colour

Photograph of the patient, showing the mental alertness, the rigidly flexed limbs, and the slight opisthotonus

and general build were good and consciousness fully retained. Handling was resisted and produced exacerbation of the spasm. The eyes were held practically closed and opening them was difficult. The pupils were normal and no strabismus was detected. The jaws could not be opened and the masseter, temporal, and platysma muscles were in a state of firm contraction. A thin-lipped grin with elevated chin and stiff neck produced a characteristic picture. The sternomastoid muscles stood out, the trunk was arched backwards, and the abdominal muscles board-like and visibly tense. The limbs were held rigidly flexed and could not be extended without using considerable force. The tendon-jerks of arms and legs were exaggerated and an extensor response was elicited on the right side. A marked feature was the retention of perfect consciousness, the patient following every movement with his eyes. No wound could be detected, healing or active, but in view of the rather long course of the disease, this could be readily explained.

A diagnosis of tetanus was made, meningitis being excluded because of the mental alertness and the marked trismus. Lumbar puncture revealed a clear fluid under pressure: it contained no excess of cells and gave a negative Nonne-Apelt reaction; chlorides and sugar were normal.

Treatment.—On the day of admission (Dec. 21st) 40,000 units of antitetanic serum (A.T.S.) were introduced by cisternal puncture and 20,000 units intramuscularly. On the 22nd the condition was unchanged; breathing laboured and sweating marked. 40 c.cm. of cerebro-spinal fluid (C.S.F.) removed by cisternal puncture and 40,000 units of A.T.S. introduced. Dec. 23rd: slight general improvement. 20 c.cm. of C.S.F. removed by cisternal puncture and 20,000 units of A.T.S. introduced. Dec. 24th: condition unchanged. 10 c.cm. of C.S.F. removed by lumbar puncture and 12,000 units of A.T.S. introduced. Dec. 25th and 26th: 10 c.cm. of C.S.F. removed by cisternal puncture and 40,000 units of A.T.S. introduced each day. By the 26th there was little improvement in the general rigidity, but exacerbations were becoming infrequent. Dec. 28th: 5 c.cm. of C.S.F. removed by cisternal puncture and 20,000 units of A.T.S. introduced. Jan. 2nd, 1935: general improvement. Trismus less, so that the infant opened its mouth sufficiently to allow the insertion of the little finger. Facial spasm less evident. Jan. 4th still some head retraction and arching of the back Limbs held flexed but less rigid.

During the following week improvement was rapid and the infant put on weight and improved in colour. By Jan. 15th he was apparently normal, the knee- and ankle-jerks were very brisk, however. One noticeable feature during convalescence was the high degree of intelligence he betrayed and the alertness with which he appreciated his surroundings.

The fact that this child had already survived three weeks' illness before admission to hospital meant that the prognosis was favourable before the commencement of serum treatment. It was noticeable, however, that the child's condition began to improve soon after serum was given; whereas he had been getting worse until he came to hospital.

My thanks are due to Dr. A. G. Watkins and Dr. D. G. Morgan for permission and help in publishing the notes of this case.

STONES IN THE HEPATIC DUCT

A REPORT OF TWO CASES

By Leonard Ley, M.B., B.Chir. Camb.

SURGEON TO THE GREAT YARMOUTH GENERAL HOSPITAL

THE method of treatment suggested in this note, and adopted in Case 2, is based on what happened in Case 1.

CASE 1.—Mr. A., aged 46, was under my care in 1924 for gall-stone colic and jaundice. He underwent operation on Aug. 7th, 1924, when the jaundice had cleared up. At operation I found the gall-bladder shrunken and attenuated and containing only a few tiny stones. I opened the bile duct and explored with my finger, but found no stones. The gall-bladder was removed and the bile duct drained; a large cigarette drain was also introduced.

Shortly after the operation I went for my holiday. On my return I was told the following story. My patient became very ill with pain, jaundice, and high temperature; and after several days the sister, who was dressing him, noticed some dressing protruding. This was removed and was followed by a copious gush of bile and a very large number of small stones.

The patient's general condition rapidly improved and he has remained perfectly well ever since. I assume that in withdrawing the drainage tube the gauze within remained adherent to the bile duct and that this blocked the duct and caused a damming-back of bile with dilatation of the

ducts; when the pressure was released the flood washed out the stones.

This was a case where a surgical blunder cured what orthodox treatment would almost certainly have failed to relieve.

CASE 2.—Mrs. B., a stout woman aged 59, was admitted under my care on May 11th, 1933. Sent in by Dr. J. M. Smellie as a case of gall-stone colic. History of indigestion for two to three years, varying with attacks of severe pain. Last attack five months ago. Never had jaundice. At operation on May 22nd, the gall-bladder was found enlarged and thickened and contained stones. The common bile duct was much dilated and felt "mushy" with stones. The gall-bladder was removed and I then opened the bile duct and removed all the stones it contained with the finger in the duct aided by a scoop. When the main duct was emptied I could feel a stone presenting at the orifice of an accessory duct that I took to be the left hepatic duct. This was coaxed out by an angled probe and was promptly followed by another. In this way I removed six or seven stones and could feel no more, but naturally felt that it was more than likely that other stones were present. I decided to pack the common bile duct with ribbon gauze and so dam back the bile and trust the released flood of bile to wash out any stones left behind.

I first put a Spencer Wells forceps on each lip of the incision in the bile duct to act as scaffolding, I then tightly packed the upper end of the bile duct with ribbon gauze, and put a large corrugated rubber cigarette drain down to the bile duct. The wound was closed above and below the drain, leaving about 2 inches of the abdominal wall unsutured. The ribbon gauze and drain and the Spencer Wells were removed on the third day under gas anæsthesia and the duct was explored digitally—five stones were removed. I dressed the wound daily and explored it digitally for ten days, removing three more stones. No anæsthetic was required after the first dressing. She had only one hypodermic of morphia, gr. ¼, after the operation. She left hospital with the wound soundly healed on July 29th, 1933.

This second patient is now (in June 1935) perfectly well and has had no symptoms of any abdominal disease since her operation.

MEDICAL SOCIETIES

ASSOCIATION OF CLINICAL PATHOLOGISTS

THE summer meeting of this association was held in the pathological department of the Princess Alice Memorial Hospital, Eastbourne, on July 20th. Dr. A. G. SHERA, pathologist to the hospital, being in the chair. Dr. R. A. O'BRIEN (London) spoke on certain problems in connection with

Diphtheria Prophylactics

It was admitted, he said, that by the use of prophylactics it was possible greatly to reduce the incidence of diphtheria in a community; in Birmingham fever hospitals the introduction of prophylactic immunisation had reduced the incidence from 10 per cent. to almost nil. The problem now was to determine the most suitable prophylactic, and to ensure its intelligent use. There is, he said, no absolute line of demarcation between Schick-positive and Schick-negative individuals. Subjects whose blood showed 1/30th of a unit of antitoxin would give a negative Schick reaction; those possessing less than 1/1000th of a unit would give a positive reaction. The response to any given prophylactic depended to a large extent upon the existence of some potential antibody; those showing some degree of this basal immunity gave the best response to prophylactic immunisation. The response to any given prophylactic varied enormously in relation to this basal immunity; it was on the whole more difficult to produce a satisfactory response in children from sheltered homes than in those who had mixed widely with other children of all ages. On this account it was difficult to dogmatise as to the most effective method of diphtheria prophylaxis and result. Much still remained to be learnt as to the chemical constitution of alum toxoid. Different samples gave a nitrogen content of from 0·2 to 3·0 mg. per c.cm. The American requirement was that alum toxoid when injected into a guinea-pig in a dose of 1·0 c.cm. should produce two units of antitoxin in six weeks. He had tested a number of alum toxoids both American and English; few of these had reached the American requirement, but one sample made in London had, in certain guinea-pigs, produced five units. Mr. Glenny found that guinea-pigs gave a better response to two doses of 0·1 c.cm. at an interval of some days than to one of 1·0 c.cm. Answering questions put to him by practitioners, Dr. O'Brien said that the Schick-negative child cannot be regarded as absolutely safe against diphtheritic infection; a heavy dosage of a virulent organism may overcome the immunity, but the infection would almost invariably be clinically mild. The Moloney-negative reactor is virtually though not absolutely safe against unpleasant manifestations after immunisation; immunisation does not for practical purposes "sensitise" the subject. Dr. O'Brien pointed out that no matter what form of prophylactic has been used, the treated subject cannot be regarded as immune unless the immunity is demonstrated by a Schick test.

Prof. J. W. MCLEOD (Leeds) stated that in Leeds 19 cases of mild diphtheria had developed among over 30,000 children treated with diphtheria prophylactic. Nine of those children were known to be Schick-negative; the remaining 10 had not been tested.

BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.—Prof. MCLEOD spoke of the difficulties and a contribution made by new methods to their solution. He showed cultures of the gravis, intermediate and mitis strains of *C. diphtheriæ* growing on tellurite medium and demonstrated the differences in these strains, both cultural and morphological. On this medium 11 per cent. of positive throat swabs had shown *C. diphtheriæ* against 3 per cent. on ordinary Loeffler medium. There was a wide difference in virulence between the three strains. Of the gravis strains all were pathogenic to the guinea-pig, of the intermediate strains about 94 per cent. and of the mitis strains 86 per cent.

Whooping-cough

Dr. A. D. GARDNER (Oxford) said that although in domestic circles whooping-cough is still taken comparatively lightly, its mortality equals that of scarlet fever and diphtheria combined. For the prevention of epidemic spread it was essential for diagnosis to be made before the whoop developed. In this catarrhal stage bacteriological diagnosis alone was possible. After the second week the characteristic lymphocytosis developed and the complement-fixation test became positive, but it was then too late to prevent spread. Dr. Gardner described his method of isolation

of the Bordet-Gengou organism by getting the patient to cough upon specially prepared serum plates. The proportion of positive cultures obtained in the first week was very high; after this it fell away; a positive culture was rare in the fourth week and it was doubtful if the subject remained infective to this stage. He was of the opinion that infection was always from case to case and that carriers do not occur. He was sceptical of the value of pertussis vaccine in treatment. In prophylaxis it was of value, but the organism used to prepare the vaccine must be freshly isolated and of a smooth strain; old rough cultures were of little use. Failure to produce satisfactory immunity in the past had been due to the use of old rough strains. Dosage must be large. He showed graphs illustrating the good results obtained by workers, particularly in the Scandinavian countries, by the use of large doses of a suitable vaccine in the prevention of epidemics.

In the discussion it was pointed out that pathologists working in small laboratories find it impossible to keep on hand a stock of the special medium necessary for the isolation of *B. pertussis*. In Denmark plates of suitable medium in metal Petri dishes are made available by the State Laboratory. Dr. Gardner hoped something of the sort could be done in this country.

Glandular Fever

Dr. L. E. H. WHITBY (London) spoke of the infectivity of glandular fever. One patient had infected two attendants; in both cases the incubation period was one week. He had escaped infection himself, but he had, he thought, already suffered from the disorder, though it had been diagnosed as scarlet fever. After the incubation period there was fever lasting for about a week which might give rise to suspicion of enteric infection; glandular enlargement appeared in the second week and might be accompanied by considerable enlargement of the liver and spleen. The swelling affected the glands very irregularly; in some cases only the mediastinal or abdominal glands might be involved, when abdominal pain might suggest operation. The characteristic blood changes appeared in the pyrexial stage; the typical blood picture showed white cells 20–40,000 with 70 to 80 per cent. of mononuclears; these might be small lymphocytes or resemble monocytes. He demonstrated the Paul-Bunnell reaction which depends upon the fact that sufferers from this order develop within their serum heterophile antibodies against sheep red cells. The reaction becomes positive with the appearance of the glandular enlargement; how long it remains positive is not yet known. A titre of 1 in 100 may be regarded as diagnostic.

Dr. WESTON HURST (London) dealt with the clinical pathology of the virus diseases. The virus, he said, localises itself within the cell and therefore tissue reactions are not found. Such focal lesions as occurred were necrotic and marked by an absence of the cells usually associated with infective processes. For the demonstration of inclusion bodies he recommended routine fixation in Zenker's solution with acetic acid.

Dr. SHERA described the mode of preparation of sensitised hæmolytic streptococcal vaccine and showed charts and case records from cases of hæmolytic streptococcal infection in which it had been used.

Dr. S. C. DYKE (Wolverhampton) described a case of aspirin poisoning.

REVIEWS AND NOTICES OF BOOKS

The Story of the Middlesex Hospital Medical School

By H. CAMPBELL THOMSON, M.D., F.R.C.P. London: John Murray. 1935. With 52 Illustrations. Pp. 182. 10*s.* 6*d.*

RARELY is an institution blest with so charming a writer to chronicle its story as is the Medical School of the Middlesex Hospital in the person of Dr. Campbell Thomson. Here is a living picture of the past depicted with the skill of an artist steeped in the traditions of his alma mater. "Where'er we tread 'tis haunted, holy ground"—no matter whether we are conducted over the Marylebone Fields in 1757, with perhaps a visit to the "Queen's Head and Artichokes," whether we listen with Charles Bell, newly arrived from Edinburgh, to the watchman calling "One o'clock and a starlight morning," or whether we "walk the hospital" with Charles Murchison in the 'sixties. All is unfolded with inimitable grace and sympathy. It will thrill the heart of every Middlesex man to move about in company with the men who founded his school, who fostered it with undaunted courage through many anxious years, and who, with ungrudging endeavour, have steered it to the honoured position it holds to-day. To a wider public it will make its appeal as an entrancing picture of medical life in London in the last hundred years. By a happy circumstance the centenary celebrations of the school have coincided with the completion of the rebuilding of the hospital, so the curtain falls on a great achievement.

Chapters are devoted to various epochs in the school's history, and each contains the names and deeds of those who played their part. One deals with the developments which finally led to the amalgamation of the school with the hospital, another with the War years, and yet another with contemporary events. At the time when various medical schools under the ægis of the University of London were establishing full time professorships in clinical subjects the Middlesex Hospital Medical School chose a different course. A number of appointments were created by which the pathological laboratories—and the school was fortunate in possessing a pathological institute through the generosity of Sir John Bland-Sutton—might be kept in close touch with the clinical side of the hospital. These were in the main full time appointments and included one or two junior members of the honorary staff, who were thus given an incentive to carry out scientific work at their own hospital instead of seeking other hospital appointments and paid posts elsewhere. This course of action, combined as it was with the endowment of professorships in non-clinical subjects, has proved of the greatest advantage to the school, not only in the reorganisation of teaching but in other respects.

We learn that the vexed question of the admission of women students first came under consideration in 1861. Miss Garrett (afterwards Mrs. Garrett Anderson) had taken the unprecedented step of endeavouring to obtain a medical qualification in Great Britain. She obtained permission to attend classes of the preliminary sciences in the medical

school. Later, when she was allowed to visit the wards in company with the resident officers, the innovation created so strong a feeling among the students that a petition of protest was sent to the school committee. The lecturers, though apparently individually inclined to support Miss Garrett, collectively failed to face the storm, and a resolution was carried to the effect that "This meeting considers it very inexpedient that female students should follow the practice of the hospital and that the medical officers be earnestly requested not to permit any such persons to attend in the wards or out-patient room." An offer from Miss Garrett to endow a medical scholarship for women students at the Middlesex Hospital was declined.

The book is beautifully printed in large type and contains many excellent illustrations.

A Text-book on the Nursing and Diseases of Sick Children

For Nurses. Second edition. By Various Authors. Edited by ALAN MONCRIEFF, M.D., F.R.C.P. Lond., Physician to the Children's Department, Middlesex Hospital; Physician to Out-patients, the Hospital for Sick Children, Great Ormond-street. London: H. K. Lewis and Co., Ltd. 1935. Pp. 583. 15*s*.

NOTWITHSTANDING the limitation implied in the title of this book, we would bring it to the attention of medical students. The first part is devoted to a consideration of the general principles of medical and surgical nursing, with special reference to the technique and apparatus of the procedures described; separate chapters are devoted to anæsthesia, orthopædic surgery, fractures, shock, and so forth, and brief descriptions are given of a number of the commoner tumours, cysts, and deformities. The second part, which forms the major portion of the whole volume, constitutes an elementary text-book of children's diseases. It is not quite clear on what principle some surgical conditions have been included in the first part and some in the second, but apart from this minor peculiarity of arrangement, the book is well adapted for rapid reference. It is profusely illustrated with many excellent line drawings and photographs, and the general production maintains a high standard. A few inaccuracies that occurred in the first edition have now been corrected. The editor is to be congratulated on his success in welding the contributions of a number of authors into such a well-designed whole.

Diet Control

By GEORGE E. ANDERSON, M.D., Attending Physician to the Brooklyn Hospital and the Lutheran Hospital; and P. C. ESCHWEILER, M.D., Assistant Attending Physician to the Brooklyn Hospital and the Methodist Episcopal Hospital. New York: Gallo and Ackerman, Inc. 1935. Pp. 41, and many diet prescription forms. $3½.

THIS book is an interesting novelty consisting of a large number of diet prescription forms in a loose leaf binder arranged in such a manner that the practitioner can employ them for individual patients requiring diets for the treatment of such conditions as diabetes and obesity. Further supplies of the prescription forms can be obtained from the publishers when the originals are exhausted. An introductory brochure of 41 pages describes the principles to be applied in using the prescriptions. The system is that in use in the metabolic clinic at the Brooklyn Hospital, and contains well-arranged tables for the estimation of the calorie content of diets containing varying amounts of carbohydrate, protein, and fat.

The work is clearly one of those of interest to English readers merely as an indication of a method, because in actual practice the ingredients of the American menu differ fundamentally from our own; the British practitioner is unlikely to order kohlrabi, rutabagas, or zuzu crackers in any quantity for his patients.

An Introduction to Gynæcology

Second edition. By C. JEFF MILLER, M.D., Professor of Gynæcology, Tulane University School of Medicine; Chief of the Department of Gynæcology of Touro Infirmary; Senior Visiting Surgeon, Charity Hospital, New Orleans. London: Henry Kimpton. 1934. Pp. 354. 25*s*.

DIRECTING attention to the dimensions of the scholarly and comprehensive treatises on gynæcology, which he provided for students and practitioners in America, Dr. Jeff Miller expresses his belief that they do not meet the need of the "beginning student." He offers this as an excuse for the publication of an Introduction to Gynæcology, and modestly states that in a book of this size the subject of necessity could only be presented in the barest outline. In this country such an explanation would prepare us for yet another of the pocket monographs; but, on the contrary, Dr. Miller does indeed introduce the subject in an admirable way. Pathology predominates, as it should, and a very nice balance has been maintained in the relative allocation of space to symptomatology, examination, and treatment. The paper, printing, and production are of the best; the same cannot be said of the illustrations, many of which, especially the photographs, have reproduced badly. The short bibliography appended to each chapter will be of value to students, and could be inserted with advantage in a greater number of text-books published in this country. If the "beginning student" masters this Introduction, he will assuredly have a sound foundation on which to build from his clinical experience.

British Journal of Surgery

THE July issue (vol. xxiii., No. 89) includes the following papers: Carcinoma of the Gall-Bladder, by C. F. W. Illingworth (Edinburgh). A clinical and pathological study based on knowledge of 50 cases. (See annotation on p. 261.)—The Operative Treatment of Fibrous Stricture of the Rectum: with the Description of a new Technique, by J. P. Lockhart-Mummery and O. V. Lloyd-Davies (London). The treatment of low annular stricture by internal proctotomy and repeated dilatation is briefly described. The new treatment for tunnel strictures consists of (*a*) clearing up the local sepsis; (*b*) in most cases, performance of preliminary colostomy; (*c*) operative approach to the rectum by excision of the coccyx; longitudinal division of the stricture; and closure of the incision transversely by two layers of sutures.—Notochordal Tumour of the Cauda Equina in a child of Eight Years, by V. H. Ellis (London). The tumour was pedunculated, entirely intrathecal, and histologically had the structure of a chordoma. Operative removal was successful.—Carcinoid Tumour of Meckel's Diverticulum: Report of a Case, by I. Price (London). The patient, a woman aged 54,

developed acute peritonitis. She died after a resection of 13 cm. of small intestine, including the growth. The histology is discussed and literature briefly reviewed.—Incisional Hernia, by E. S. J. King (Melbourne). Escape of abdominal contents between peritoneal sutures, or through tears or hiatus along the line of peritoneal closure—and not stretching of the scar—is regarded as the underlying cause of incisional hernia.—Posterior Segmental Block-Excision of the Bladder Neck with Primary Closure, by S. Harry Harris (Sydney). An operation designed for the relief of obstruction such as may be caused by median bar formation, or disease of the posterior commissure, or general prostatic fibrosis; it consists of wedge excision of posterior lip of the urethra by the transvesical route.—A Case of Hyperinsulinism relieved by Partial Pancreatectomy, by J. Allan Berry (Napier, New Zealand). A clinical description is given of functional hypoglycæmia. The blood-sugar curves before and after removal of 28 g. pancreas are described and illustrated. The curious response to starvation and to glucose administration is discussed.—Congenital Dermoid Cysts and Sinuses of the Limbs, by M. J. Bennett-Jones (Liverpool). The anatomical localisation of these sinuses and cysts along the axial lines of the limbs is well illustrated by the five cases reported.—Acromegaly, by R. Lawford Knaggs (Newton Abbot). A historical survey is followed by a detailed description of the clinical features, and of the pathological nature of the skeletal changes. The pathogenesis, and the possibilities of treatment by irradiation, surgery, and glandular therapy are discussed.—Pseudo-Myelomatous Carcinomatosis, by L. Cosin (London). Full details are given of a case, with the typical features of splenomegaly, anæmia, with nucleated red cells and myelocytes, and the X ray picture of multiple myelomatosis. The primary lesion was bronchial.—Omental Torsion with Unusual Symptoms, by C. R. Salsbury (Kingston, Ontario). A description of two cases.—Strangulated Internal Hernia: Report of Cases of Strangulation in the Fossa Iliaco-Subfascialis and through the Foramen of Winslow, by G. F. Langley (Bristol). The second case was one of double obstruction—i.e., of the jejunum in the lesser sac, and of the pelvic colon by inflammatory fibrosis. The literature is reviewed.—The Value of the Urea-Clearance Test in Urinary Surgery, by E. W. Riches and J. Douglas Robertson (London). The technique of the test is described, and its reliability assessed in prostatic surgery, and in surgical diseases of the kidneys.—The Effect of Tracheal Occlusion on the Hypertrophy of Thyroid Transplants and Remnants, by E. Walter Workman and Gavin Miller (Montreal). Experiments were done on adult male and non-pregnant female guinea-pigs, stenosis being produced by partial ligature of the trachea. Hypertrophy followed partial extirpation of the gland. Partial tracheostenosis induced colloid states of the thyroid.—Cholecystography: its present Clinical Value, by Robert McWhirter (London). Includes an analysis of 4676 cholecystographic examinations at the Mayo Institute.—An Unusual Tumour of the Neck, by R. E. Norish (London). Histologically the tumour showed epithelium of an alveolar structure, lying in a mass of lymphoid tissue. The possibilities of origin from branchial tissue or from salivary remains are discussed.—Pathological Changes induced in the Mamma by Œstrogenic Compounds, by Harold Burrows (London). Hunterian lecture. The author regards the effect of œstrin as increasing the liability to cancer of the breast, rather than as directly causing it. Of 125 mice treated, 2 have developed cancer.—The Innervation and Muscular Activities of the Distal Colon: With a Note on the Surgical Treatment of Constipation, by Hugh C. Trumble (Melbourne). The indications are discussed for division of the lumbar sympathetic supply to the colon; of the lumbar sympathetic trunks; and of the hypogastric nerves.

NEW INVENTIONS

AN IMPROVED PNEUMOTHORAX NEEDLE

THE needle shown in the accompanying illustration was first manufactured to my specification by the Genito-Urinary Mfg. Co., some two and a half years ago. The needle combines the following advantages:—

(1) The solid end enables so sharp a point to be obtained that many patients find a local anæsthetic quite superfluous.

(2) The side opening in the form of a slit offers less resistance to penetration of the skin and allows the shaft of the needle to be of finer bore than in those models in which a circular opening is used. No stilette need be used, as blocking of the opening with blood or tissue from the chest wall (so common with end-opening needles), practically never occurs.

(3) The butt end of the needle fits directly on to a rubber tube, no tap being required. It will also fit a record syringe so that a sample of fluid can be withdrawn if desired.

This needle cannot be used for the induction of a pneumothorax or for the first two or three refills, since the side opening makes it necessary to push the needle one-eighth of an inch deeper into the pleural space than is the case with an end-opening needle. The risk of injury to the lung is diminished by the absence of blocking of the needle which is the commonest cause of too deep penetration.

I have had similar needles of wider bore made for aspiration of fluid. The side opening again has the advantage of not blocking nearly so frequently. The solid, sharp point permits forceless penetration of the chest wall even with a wide-bore needle.

No originality is claimed for any particular feature of this needle, which is only a slight modification of one previously designed (with circular side-opening) by Dr. F. G. Chandler. Acknowledgment is also due to Mr. R. Schranz of the G.U. Mfg. Co., to whose technical skill this needle owes most of its popularity.

ANDREW MORLAND, M.D., M.R.C.P. Lond.
London, W.

1. STOMACH-HOLDING FORCEPS

THE accompanying illustrations show the principles and action of forceps which I have designed and employed in suitable cases.

The first (Fig. 1) is a forceps primarily designed for seizing and holding the stomach in such operations as gastrectomy and gastro-enterostomy. It has been developed from the forceps that Pierre Duval designed for holding the lung, and the principal features of the instrument are: (1) while the blades are still triangular they are not fenestrated and the corners have been carefully rounded off; (2) the grip is obtained by means of a small raised piece of metal in which transverse longitudinal grooves are cut; (3) the blades are very light and springy and lightness and accuracy of pressure have been ensured by—(4) the long ratchet.

The second instrument (Fig. 2) is also designed for holding the stomach and intestines, and the figure gives an excellent idea of the tool. They are light and bowed and there is again the long ratchet;

ribbed rubber is threaded round the ringed gripping extremity. This instrument is excellent for holding the small intestine, but may be rather severe at times on the stomach. It is useful for holding the free edge of the liver—for example in local resection of that organ; and it can be used for holding a kidney or gall-bladder, but not all kidneys or gall-bladders are suitable for this type of grip.

FIG. 1

FIG. 2

2. A DRAIN INTRODUCER

This instrument is intended to facilitate the introduction of drains into the peritoneal cavity, and the illustrations (Figs. 3, 4, 5, and 6) give a good idea of the method of using it. I employ it largely in conditions such as perforation of duodenal or gastric ulcers where I am in the habit of making a mid-line supra-umbilical incision. The "introducer" is slipped into the lower angle of the wound and kept in intimate contact with the peritoneum along the middle line down to the level at which it is proposed to place the drain. The handle is then slightly depressed while the instrument, as a whole, is slightly raised. With the aid of this manœuvre the cup-shaped end of the instrument causes small areas of the suprapubic part of the abdominal wall to project. In fat individuals projection may not be visible, but can be readily felt. A small incision is made over the projection and with the point of the knife is deepened through all the layers of the abdominal wall right into the cup. Still holding the instrument firmly and steadily a curved artery forceps, about seven or eight inches in length, is pushed into the opening thus made into the cup. As the instrument is withdrawn the artery forceps is simultaneously pushed further in—its point remaining in the cup all the time. In this way the artery forceps ultimately reaches the lower angle of the wound. Its blades are opened sufficiently to seize a piece of split rubber drain about half an inch or thereabouts in diameter. The opening of the blades naturally widens the peritoneal and aponeurotic part of the incision. By withdrawing the artery forceps one end of the drainage tube is pulled through the small stab-hole, the other end is then placed to best advantage in the bottom of the pelvic cavity.

FIG. 3

The instruments have been made for me by Messrs. Down Bros.

T. J. D. LANE, M.D.

FIG. 4

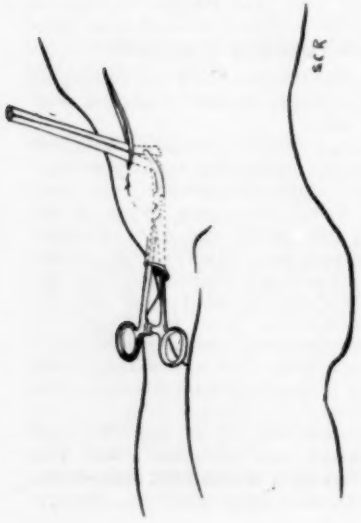

FIG. 5

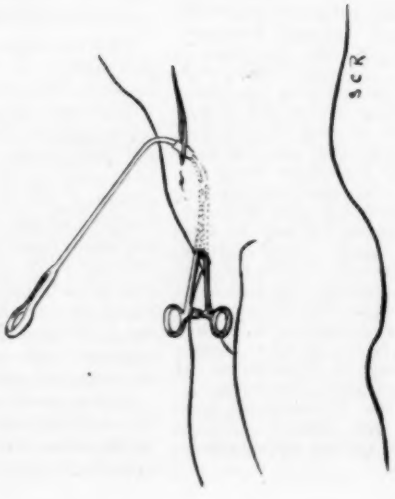

FIG. 6

THE LANCET

LONDON: SATURDAY, AUGUST 3, 1935

CONTRACT PRACTICE

THE extension of contract practice provided occasion for an interesting debate during the annual representative meeting of the British Medical Association this year.[1] Three different divisions had put forward motions asking for the alteration of a resolution of the Representative Body dating back to 1920 so as to permit the council of the Association to sanction schemes for the provision of medical attendance on a contract basis to persons whose incomes are above the National Health Insurance Acts limit of £250 per annum. One speaker recalled that the resolution in question was originally passed in 1913, and he enumerated some of the arguments which were brought forward at that time. It was said then that contract practice was not good for either patient or doctor, that it was derogatory to the profession, and that any extension of such practice would pave the way for the inclusion of the dependants of insured persons under the provisions of the Insurance Acts. How remarkable has been the change of opinion during the intervening decades is demonstrated by the fact that an amendment to the three motions, expressing their common intention, was passed by a majority of 108 to 37, and the minority figure actually exaggerates the opposition to the extension of contract practice, since a number of the contrary votes were cast against the principle of local option.

How are we to account for this changed attitude? What are the arguments which have induced most medical men to withdraw their opposition to contract practice, and some of them, notably among the younger ones, actually to press for its extension? Probably the most effective argument has been the comparatively successful working of the Insurance Acts. There are nevertheless still many who, while participating in work under the Acts, look on their compliance as "making the best of a bad job" and who feel—and sometimes say—that the profession in undertaking and encouraging such practice is losing dignity and prestige. If this were true it would undoubtedly provide a strong case against contract practice; but nearly all the available evidence is to the contrary. There is nowadays no significant opposition among the insured population against the provision for medical benefit, and the various associations of insurance committees have for a number of years been pressing for the extension of medical benefit to dependants. The sons and daughters of comparatively well-to-do parents, when they are in insurable employment, are increasingly prepared to accept medical benefit, and many movements are on foot among middle-class people to make provision by insurance on a contract basis for medical attention. No unbiased observer can fail to conclude that there is in our own as well as in other countries a growing belief in and demand for insurance provision of this kind. It is a usual assumption of those who see all good to lie in the past that the peoples of this island are a thriftless spoon-fed lot compared to their forefathers; but the mounting turnover of nearly all the insurance companies constantly disproves such assertions, for what is insurance but a modern and intelligent form of "putting something by for a rainy day"? There is indeed ample evidence that the general public is gaining faith in contract practice and believes it to be good for the patient.

It remains to be considered whether it is also good for the doctor, and, most important of all, whether or not it is the system most likely to promote national health and well-being. The first need is to differentiate clearly between modern contract practice and the old-time club practice. Those who remember the evils of the latter and the stubborn and successful fight in our columns for its abolition may well dread any risk of a return to this pernicious system, and one can sympathise with their fears. The profession in this country has always condemned any system in which the doctor's position depends on political or any other than strictly medical considerations, and it is not likely to depart from this attitude. But there is a vast difference between being elected as a club doctor and being selected from a panel by an insured patient as his medical adviser, and we have no fear that any extension of contract practice on modern lines will diminish the prestige and independence of the family doctor. The most frequently urged objection to the contract system from the doctor's point of view is that it involves him in a lot of unnecessary and trivial work. It is probably true that the insured worker often comes to his doctor with complaints for which in the pre-insurance days he would have attempted to treat himself in order to avoid incurring a bill. As an offset to this, however, we have to reckon the probable effect of early consultation in serious illness in lessening the total amount of work that the doctor has to do for his practice. Theoretically at any rate the system puts a premium on health and not on illness, and the better the doctor does his job the less he has to do for his remuneration. In prolonged illness under a fee system, unless the patient is comfortably off, the conscientious doctor is placed in the awkward dilemma either of reducing his fees to the charity level at the risk of offending the dignity of his patient, or of reducing his visits at the risk of neglecting his job. This difficulty does not arise in contract practice. Financially the system, while precluding the amassing of large sums, has the advantages of security of income. At the average level of medical income in this country most people would consider that the advantages of security outweigh its disadvantages. It is no argument against the contract system to say, as is sometimes said, that its remuneration is

[1] See THE LANCET, July 27th, 1935, p. 208.

inadequate. The remuneration obviously depends on the capitation rate which may be set at any figure agreed on after negotiation, and adequacy and fairness are at least as readily attainable in this as in any other system, since it operates on the law of averages.

Finally we have to consider whether this system will aid in the achievement of a better standard of health among the people. Medicine, like industry, is suffering from the prevailing economic disability. There is not much wrong with the production of medical knowledge, but the distribution of it among the people of the country is far from satisfactory. It is probably not an exaggeration to say that if our present-day knowledge of nutrition, hygiene and preventive medicine generally were made readily available for all and effectively put into practice the resultant saving in sickness benefit alone would more than cover the outlay involved. The whole conception of the medical problem rests nowadays on a wider basis, and illness is coming to be regarded not so much as a morbid process but as a biological failure. It is being increasingly realised that prevention of that failure is at once simpler, less expensive and more effective in its results than the attempt to rectify it when it has occurred. The function of the medical man should in the future tend more and more to be that of the expert human biologist, giving advice to those in his care on how to achieve and maintain the fullest measure of health and vigour. Two things are clearly necessary if a development of this kind is to occur. First the doctor must be in the relation of trusted family adviser to his patient, and secondly he must be readily available and in a position to offer his advice whenever he thinks it necessary and not only when called in to attend a sick patient. It may well be that the ultimate solution of the proper adjustment of his relation will be found to lie in the more general adoption of the contract system. At any rate local option as to its development can hardly do harm.

THE TREATMENT OF TETANUS

In general practice tetanus is a rarity, but it is one of those rarities which lies on the conscience of the general practitioner, for it is amenable, at least in some degree, to treatment, and to that end diagnosis must be prompt and proper management must be instituted immediately. If the chance of meeting with the disease in this country is small it is nevertheless widespread, since tetanus spores are abundant in the soil of the inhabited areas, and quite common in the fæces of farm animals. No doubt they often gain entry to wounds and abrasions, but fortunately they do not produce the tetanus toxin unless they are allowed to germinate and then grow for a day or two; and being anærobes, they can do this only in the absence of oxygen—that is, only when the wound is deep or is scabbed over, and when other organisms or foreign bodies have so damaged the tissues as to hinder their permeation by oxygen from the capillaries. Hence tetanus is rare, but since the conditions favouring it are always likely to occur from time to time, in small wounds as in large, the disease is not likely to disappear. The toxin once produced spreads freely, undamaged by oxygen, and is taken up by the lymph and into the blood. Thence it enters the nervous system through the peripheral endings of the motor nerves all over the body. It travels up their axons into the central nervous system and there produces the spasms and convulsions of the disease by poisoning the anterior horn cells and the corresponding cells in the brain stem; "lockjaw" is early, and therefore ominous, because the journey up the fifth nerve is short, and the first stiffening, in the jaw muscles, is quickly noticed by the patient.

Specific treatment with antitoxic serum has been as disappointing in tetanus as it is successful in diphtheria. The reason is that the antitoxin can neutralise the toxin only in the blood stream; it cannot follow the toxin into the nervous system through the multiple wicket-gates of the motor end-plates, and it cannot reach the nerve cells themselves by any other route. Even Fildes and Florey's ingenious attempt [1] to suck it in osmotically from the cerebro-spinal fluid, by giving serum intrathecally and hypertonic saline intravenously, met with failure. By the time tetanus is clinically recognisable much of the toxin must already be in the nervous system, but still more may be coming into the blood from the organisms in the wound, and therefore antitoxin is worth giving. Dr. Leslie Cole [2] who has treated 21 cases of tetanus in Cambridge advises injection of 200,000 units, intravenously. This is enough and the injections need not be continued, for observations on 4 of his patients have shown that after this dose the blood retains enough antitoxin for the next fourteen days to neutralise any toxin that may reach it. The toxin already in the nervous system, however, continues its evil work.

The fact that some patients recover shows that the body can eventually destroy this toxin, if it does not succumb to the secondary effects of the poisoning. These are chiefly exhaustion (and sometimes asphyxia) from the muscular spasms, inanition from the inability to take food, and hyperpyrexia. If these effects can be countered by symptomatic treatment, the patient may be kept alive until he can recover. Curare, with its classical action of blocking the impulse in the motor nerve just as it reaches the muscle, has been suggested as a suitable means of abolishing the spasms. Cole [2 3] tried it in three cases and found that it greatly diminished both the spasmodic tetanic contractions and the tonic rigidity between them, even in doses which were not large enough to abolish respiratory movements. That was encouraging, and were the curare action as simple as it at first appears it might be possible to push it further to produce complete paralysis, substituting mechanical artificial respiration for spontaneous respiration. Curare, however, is a mixed and variable product; it may contain poisonous

[1] Fildes, P., and Florey, H. W.: Brit. Jour. Exp. Path., 1927, viii., 393.
[2] Cole, L. B., and Spooner, E. T. C.: Quart. Jour. Med., July, 1935, p. 295.
[3] Cole, L. B.: The Lancet, 1934, ii., 475.

ingredients as yet undefined, and there is a suggestion that its rigidity-reducing action in tetanus is a new and central action, not the peripheral one familiar to the physiologists. Prof. FLOREY [4] has therefore treated experimental tetanus in rabbits with the alkaloid curarine, which has the classical action only. It controlled the rigidity and the fits by producing its characteristic paralysis, and the animals had sometimes to be put in a modified Drinker's respirator. He suggested the use of a similar procedure in man. Dr. COLE, however, has in most of his cases used Avertin anæsthesia for the same purpose. It is simpler and much more familiar, and to judge from the case he reports in our present issue it is also effective. In discussing his 21 cases he points out that the well-known relation between prognosis and length of incubation period is remarkably precise: excluding patients over sixty, those with an incubation period of 7 days or more recovered, while those with an incubation period of less than 7 days died. By this criterion, the infant showing the disease at 6½ days of age should have died: but kept continuously under the influence of avertin for three weeks, and fed through a stomach tube, it recovered. It may be hoped that, unless adults are a great deal more intolerant of avertin than children are, this substance will do as much in the treatment of tetanus as curare was expected to do, and with less risk and uncertainty. That may help to save some of the severe cases, with short incubation periods, and should make the problem of feeding easy. The hyperpyrexia remains to be both explained and treated. It has been suggested that the tetanus toxin may reach and disturb the heat-regulating centre; if so, it may do likewise with the respiratory and vasomotor centres. So cold sponging or cold baths may be called for; a Drinker's apparatus or a Bragg-Paul pulsator should be available; and the pulse and blood pressure must, of course, be watched. It is not surprising therefore that FLOREY pled for the rapid transport of cases of tetanus to pre-arranged centres, where teams of people with equipment and experience are ready to deal with them. With the general practitioner would remain the important responsibility of recognising the disease at once, of knowing how much can be expected or hoped from modern treatment, and of getting his patient in the least possible time to a place where that treatment is available.

ACCIDENT PRONENESS

THE modern tendency to think in terms of establishing and maintaining health, rather than of patching and repairing the inroads of disease, is nowhere better exemplified than in the activities of the Industrial Health Research Board—one of the few good things born of the war, by munition workers out of welfare. The fifteenth annual report [5] tells of many researches completed and in progress. The establishment of standards of physique for different grades of the community is an example; university students were found to be 2 inches taller than employed workers, 3½ lb. heavier, with greater muscular power; while unemployed men were 1 inch shorter than the employed, 7 lb. lighter, with much less muscular power. Mental and physical activity are closely associated, as also, nearly certainly, is physical health, although no reliable health data could be collected. London men excelled in height and weight, which fell away in passing north through Birmingham and Liverpool, by Leeds and Sheffield to Glasgow. Sedentary work seemed to recruit small men, and the heavy industries those of superior physique; but mechanisation may be expected to annul the demand for brawn and muscle. Nevertheless, creative effort is essential, if the best is to be got out of any man. Strength was found to decline with the approach of middle age; but no evidence was forthcoming about age variations in mental activity.

A result of studying industrial records, of great topical interest, has been the discovery of "accident proneness," an innate characteristic of some persons. This proneness obeys definite laws; it is found in one-quarter of the people, and results in this minority accounting for three-quarters of all accidents. Its laws hold good for accidents in the home and on the road, as well as in the factory—even for the chances of getting a foreign body in the eye. It is a personal phenomenon, independent of conscious action or blameworthiness. The accident prone are generally the least healthy and the world's worst workers; in industrial life they can be detected, and, by removing them from risk, the incidence of accidents may be greatly reduced. On the road, they are the hardened, bad drivers, and their elimination from those licensed to drive would reduce to 25 every 100 accidents that are occurring daily. Another important law relating to accidents is their liability to happen to the inexperienced; thus, in one instance,[6] an accident rate of 111 per 1000 workers of under six months of service fell away to only 8·5 for those of 10 to 15 years of service. Clearly avoidance of a high labour turnover conduces to a low accident-rate. There is known to be an optimum temperature, 67·5 F. at which fewest accidents occur, and exact information is now being sought as to the effect of lighting on the incidence of accidents. Indeed, accidents would appear to be as possible of control as other interferences with health. Study is being devoted to the influence of noise upon sickness absenteeism; it may increase the incidence of "nervous" cases. Pronounced individual differences have been revealed in psychological make-up; to some the unbroken uniformity of repetitive operations is a source of dissatisfaction; others experience no boredom and are content. But healthy and cheerful surroundings go far to minimise boredom and discontent; so also do such distractions as gramophone music, although the time and type of music must be suitable. Interest also attaches to a research into perseveration, of which an instance is afforded by

[4] Florey, H. W., Harding, H. E., and Fildes, P.: Ibid., 1934, ii., 1036.

[5] London: H.M. Stationery Office. 9d.

[6] Factory Accidents. Shaw Lectures. Royal Society of Arts, 1935.

the driver who continues to put his foot on the accelerator instead of the brake, because in his last car the brake was in the position of his present accelerator. These are only a few of many answers being sought to problems of everyday practical importance. As each answer emerges the rule is confirmed that it is not so much prosperity which gives health as that health brings prosperity.

ANNOTATIONS

PAVLOV

THE Neurological Congress brings many distinguished visitors to London, and among them we are glad once more to welcome Prof. Ivan Pavlov, now in his eighty-seventh year. Unknown outside Russia until the first decade of this century, his name has now become part of the vocabulary of physiology, inseparably linked with classical experiments on the digestive tract and the nervous system. To him we owe our knowledge of the mechanisms by which the digestive juices are secreted and adjusted in quantity and quality to the type of work they may be called upon to perform, and from him we have received the first glimmerings of the light which purely objective methods may throw upon the workings of the cerebral cortex. We could only detract from his work by attempting to give an account of it here; few are unacquainted with its broad outlines, and full translations of Pavlov's own published records are readily available. We may, however, attempt to understand the spirit in which it was done, and the principles on which it was based. Indeed, it is not difficult to summarise these in a single word, well known, well understood, often extolled, but seldom applied: "thoroughness."

His observations depended on the careful making of fistulæ at the time when asepsis was less commonly a feature of physiological experiments than it is to-day. He achieved success by adopting the most stringent surgical precautions before and during the operation, and by the care he bestowed upon his animals afterwards. This minute attention to detail characterised not only the execution of his experiments, but also their design. His operations were planned so that organs were made to yield accurate information under circumstances which differed as little as possible from the normal, and which allowed a transference of results, with little reservation, to the intact animal. The maintenance of nerve and blood-supply to the isolated gastric pouch is a case in point; Pavlov realised that unless this was in all respects a replica of the main organ, the operation was not worth performing. He would rather risk failure than abandon the ideal of perfection, and although few can hope to share his endowment of manual skill, we should sacrifice nothing of value if all were to adopt his methods of investigation. These are seen at their best in his work on conditioned reflexes, in which the success of each experiment depended on a rigid control of the animal's surroundings, even to the way in which it was approached by the experimenter. In these researches we discern not only elaborate care in design and execution, but the perfection of a new experimental method—a method whose conception signifies genius, and whose accomplishment bespeaks the self-confidence of one who has previously overcome apparently insurmountable difficulties. It is not easy to predict what its results will be, but it provides one of the few systematic means of access to that elusive entity, the mind.

But Pavlov's work—indeed, his whole life—means more than the addition of a few fresh facts to our store of knowledge. It is a corroboration of the faith of every scientist that forethought, tenacity of purpose and continued vigilance cannot fail to wrest from nature at least a few of her most closely-guarded secrets. In particular, it is an inspiration to the biologist, who is so often faced with a seemingly uncontrollable environment for his experiments.

INFANT FEEDING AND MORBIDITY

THAT the artificial feeding of infants has greatly improved in recent years—with increased knowledge of accessory food factors and the introduction of dried milk products with their superior keeping qualities—is not likely to be disputed. To what extent, however, artificial feeding can replace breast-feeding without detriment, not in a relatively few isolated cases but quite widely, is quite another matter. For an answer to that problem it is essential to have the evidence of growth curves and of sickness and mortality experiences. To the latter indices attention has been recently devoted by Grulee, Sanford, and Herron [1] and Grulee, Sanford, and Schwartz,[2] whose observations are drawn from 20,000 infants under the care of the Infant Welfare Society for Chicago for as long as nine months during the years 1924–29 inclusive. Nearly 10,000 of these infants were entirely breast-fed (with accessory feedings —e.g., orange juice, cod-liver oil); over 8,000 were partially breast-fed (comprising those who were entirely breast-fed for a time and then had to be weaned and those whose breast-feeding was complemented); and 1707 were artificially fed from the first.

The illnesses experienced in each group were recorded over the first nine months of life and classified in three broad categories, respiratory, gastro-intestinal, and other infections. From these data morbidity rates have been worked out for each separate month of age. The breast-fed were found to have sickness rates from respiratory infections mainly below those of the partially breast-fed. On the other hand, for the first four months of life the artificially fed have still lower rates, lower than those of either of the other groups, but they rise, somewhat abruptly, to a considerable excess in the 6th to 9th months of life. As might be expected, the breast-fed suffer substantially less than either of the other two groups from gastro-intestinal infections, but again the artificially fed show a relatively low incidence at 0–4 months and a considerable excess at 6–9 months. The same kind of feature is shown by the unclassified infections —viz., a lower incidence amongst the breast-fed, little to choose between the other two groups until the 6th month of life is reached. The general trend of these figures is an increasing incidence of sickness up to about the 6th month, followed by a declining rate in the totally and partially breast-fed, but a continued rise in the artificially fed. On the whole breast-fed have a clear advantage, especially in their relative freedom from gastro-intestinal disturbances, but the differences between the other two groups are not at all clear cut. It is difficult to see why the artificially fed should show to advantage in the first few months and be at a disadvantage in the later.

[1] Jour. Amer. Med. Assoc., 1934, cii., 735.
[2] Ibid., 1935, civ., 1986.

The authors suggest that some immunity, declining with age, may be inherited from the mother and that breast milk may prolong this immunity beyond the sixth month; but this hypothesis cannot account for the lower rates amongst the artificially fed in the first 4 months of life. The comparison of the groups on the basis of their feeding presumes, of course, that they are broadly equivalent in other respects —e.g., their general environmental conditions. The authors do not provide any direct evidence on this point, though they show that their population is drawn from many different nationalities; only 10 per cent. are American.

It certainly seems impossible that the sickness experience can be representative of all infants, for the mortality is incredibly low. Amongst the 20,000 infants observed for nine months (or till death if earlier) there were but 227 deaths which gives a rate of only 11 per 1000. Sixty per cent. of these deaths were recorded in the small group of artificially fed infants, but in view of the extraordinarily low total rate it is difficult to accept this excess mortality as a characteristic of the feeding. Each group may be unrepresentative of the total experience from which it is drawn and perhaps not equally unrepresentative.

THE ACCURACY OF THE MEDICAL DIRECTORY

THAT admirable book of reference, Churchill's Medical Directory, should be accurate as a matter of service to the medical profession, and accuracy can only be ensured by regular communication to the Editor of the Directory, of changes of address. On page (272) of the current issue of THE LANCET will be found an alphabetical list of members of the medical profession concerning whose present address information is sought. We join with the Editor in hoping that the information will be promptly forthcoming.

Not only those individuals to whom application is made, but to the whole medical profession one word of warning is necessary. The maintaining of the accuracy of the Medical Directory in no way acquits a member of the medical profession from keeping the Registrar of the General Medical Council informed of any change in his residence. From time to time an official inquiry is sent to his registered address, and if this is unanswered his name appears in an official list of uncommunicated addresses published at definite intervals in our own columns. Failing reply to either of these his name is erased from the Medical Register under Section 14 of the Medical Act, 1858, and he loses all the privileges of registration under that Act. No reply to the Editor of the Medical Directory relieves a member of the medical profession from the responsibility of immediate response to any inquiry from the General Medical Council. The Medical Directory is an unofficial list of first value for reference to the medical profession, but the Medical Register is the official list, and it must be made plain that a member who finds his name in the list issued by Churchill is not absolved from replying to the General Medical Council.

POST-OPERATIVE CIRCULATORY LESIONS

AN attempt to throw light on post-operative circulatory lesions by radiography has been made by J. Frimann-Dahl.[1] First of all diaphragmatic movements were studied radiologically after abdominal operations in 20 cases. This investigation showed that the excursion of the diaphragm is generally much diminished, especially when the incision has been made in the upper part of the abdominal wall; but that normal movement returns in from one to twelve days. The next step was to study the rate of the venous circulation, which was estimated by means of intravenous pyelography, following the injection of Per-abrodil into the saphenous vein. Bed rest, except in thyreotoxic cases, was found to cause a definite retardation in the flow of blood. After operations, especially those frequently followed by thrombosis, the venous blood stream was mostly found to be very slow. Sometimes the blood coming from the saphenous vein flowed in a retrograde direction down the femoral vein, indicating almost complete stasis. In one such case the femoral vein was so dilated that it appeared to be under considerable tension and thrombosis was evidently imminent. Considering the causation of post-operative venous stasis Frimann-Dahl suggests that the chief factors are post-operative meteorism and muscular inactivity. The retardation of the venous circulation tends to last throughout the period of bed rest and cannot therefore be due primarily to diaphragmatic paralysis, since this is much more transitory and is often seen to be diminishing while the venous stasis is increasing. The flow of blood in the lower extremities may be accelerated by raising the foot of the bed, by massage, by active movements of the leg muscles, and by the inhalation of carbon dioxide; any of these methods may therefore be useful in the prophylaxis of venous thrombosis. The minute study of 14 patients with post-operative pulmonary embolism was also undertaken. Small emboli studied in serial radiograms were found only to produce transitory changes; those of larger size produced definite infarcts of triangular or circular outline usually situated at the base of the lung. Pleural effusion was frequently seen and adhesions obliterating the costo-phrenic angle proved to be a common sequel.

[1] Post-operative Röntgenuntersuchungen. I. Diaphragmabewegungen und der post-operative venenstrom. II. Post-operative Lungenembolien. By J. Frimann-Dahl. Acta chirurgica, Scandinavica. National trykkeriet. Oslo. 1935. Vol. lxxvi. Sup. xxxvi. Pp. 168.

ALCOHOL AND ROAD ACCIDENTS

Mr. Hore-Belisha, Minister of Transport, asked the British Medical Association at the beginning of the year to give him its observations on the place of alcohol in the causes of road accidents. The Association appointed a special committee under Dr. W. G. Willoughby, and its report has just appeared.[1] The committee concentrated on small or "subintoxicant" doses of alcohol, less than would be likely to bring a motorist into the dock and far less than would cause social drunkenness. It has perforce relied on indirect evidence: statistics of accidents in which the question has been raised of whether the driver was under the influence of drink, and experiments on the effect of alcohol upon the faculties—judgment, memory, reaction, and muscular coördination—which are the foundation of safe driving. It quotes the Alcohol Committee of the Medical Research Council for the statement that alcohol is a narcotic and impairs judgment, concentration, self-criticism, and the power of estimating risk. It therefore leads persons to take risks and make rapid decisions less judiciously than they otherwise would. Impairment of concentration and reasoning power has, the committee point out, been established by physiological experiment. The driving of a motor car involves a succession of highly skilled muscular movements which depend on rapid and accurate coördination between the hands, eyes and feet. According to the M.R.C., the speed with which

[1] Brit. Med. Jour., July 27th, 1935, Supplement, p. 57.

the gaze is directed to fresh objects is diminished by alcohol. Speed and accuracy of hand movement have been shown by typewriting tests to suffer, and the coördination required in rifle-shooting and mountaineering is impaired. Alcohol disappears slowly from the blood, and substantial amounts remain in the blood even several hours after a moderate quantity of drink has been taken. The committee conclude that three ounces of whisky will affect the driving capacity of many persons some hours afterwards, and will make them think they are driving better than usual while really they are less efficient. These findings are no surprise to persons with any training in physiology, but may be news to laymen and lawyers. Besides indicating a possibly fertile cause of accidents, they suggest that the present law is not being administered as the facts demand. Under the Road Traffic Act a motorist is culpable who is incapable through drink or drugs of having proper control of his vehicle. This provision will cover the motorist who is not nearly drunk in the social or police-court sense, but its application is a matter of opinion. The subject was threshed out fairly fully at the Medico-Legal Society last month[2] when discussion indicated that before a motorist is likely to be convicted he must show some fairly obvious symptoms. Many physiological authorities regard him as a dangerous motorist even when he is apparently sober, simply because a minimal quantity of alcohol will impair his judgment of speed and distance, his visual acumen and his reaction-time, the factors which the National Institute of Industrial Psychology regard as essential in a driver's safety or danger. It is not likely that police surgeons and courts will give the Act the drastic interpretation which the facts suggest, because incapacity must be proved as a fact, and individuals differ so much in their initial skill and their reaction to alcohol. Better results should be obtained by energetic publication to motorists and pedestrians of the danger of little drinks.

A POISONED KIDNEY

A QUANTITATIVE study of renal injury due to acute poisoning by bichloride of mercury is recorded by Freyberg and Lashmet.[3] The patient, a woman aged 20, took 1·5 g. of the poison, and though much of it was vomited, enough was retained to cause severe gastro-enteritis for several days. Within a few hours of ingestion there was much albumin, with large numbers of renal epithelial cells and renal tubule casts in the urine, and in 7½ hours the urea clearance was down to 34 per cent. of the normal. The clearance diminished to 10 per cent. between the second and ninth days, and thereafter improved slowly but steadily, reaching the normal again 3½ months after the mercuric chloride was consumed. Impairment of the capacity of the kidney to form urine of high specific gravity and of the capacity to excrete phenol-sulphonephthalein was demonstrated, and it is interesting to note that the quantity of albumin, casts, and renal epithelial cells passed in the urine diminished considerably before there was any great improvement either clinically or in the capacity of the kidneys to excrete, or to form high concentrations of, the natural constituents of the urine. The treatment of the renal lesion consisted in the daily administration of 5000 c.cm. of fluid intravenously either as physiological saline or as 5 per cent. glucose. Thus stimulated, the kidneys excreted the water and evidently the non-protein nitrogen with it, for the non-protein nitrogen of the blood was but slightly increased. Moreover, no ill-effects were observed which could be ascribed to the intravenous administration of fluid, there being for example no œdema. It should be remembered however that in acute nephritis not due to metallic poisons, large volumes of fluid usually fail to increase the urine flow and are retained in the tissues. Thus the treatment which has met with success in a case of mercurial poisoning may prove dangerous if applied to other renal lesions.

Porter and Simons [4] have described the therapeutic effects of gastric lavage, alkalis and intravenous administration of 1000 c.cm. of saline 12-hourly so long as vomiting persists. Of 46 cases of mercurial poisoning so treated 43 recovered. The plasma non-protein nitrogen was over 50 mg. per 100 c.cm. in the three fatal cases and under 50 mg. in all those that recovered.

C S M M G

THE new Register (1935) of the Chartered Society of Massage and Medical Gymnastics contains the names of over 9,500 members, of whom more than 600 are masseurs. When this society came into existence as a chartered body in 1920, as the result of the fusion of the Society of Trained Masseuses and the Institute of Massage and Remedial Gymnastics, its total membership was 3,640. The great and continuing growth of the society in the last fifteen years has been due to the increasing recognition of the value of physical therapy as an ancillary to medical and surgical treatment, when under proper control, and it sufficiently refutes the occasionally heard assertion that this branch of therapeutics has been losing its usefulness since the war years. These registered members have passed through a comprehensive and practical two years' course of education in massage and medical gymnastics, including training in hospitals, and have been accredited by searching examinations. Most of them hold additional qualifications in medical diathermy and light therapy, which entitle them automatically to admission to the Society of Apothecaries' Register of Biophysical Assistants. Certificates are granted also after training and examination in medical electricity, light and electrotherapy, medical hydrology, and for teachers of massage and medical gymnastics, medical electricity, and medical hydrology. The Register of the Chartered Society indicates these various distinctions in each case. It is supplied free of charge to medical practitioners anywhere on application, thus providing them with the names and addresses of members practising in all districts. All these members have pledged themselves not to undertake any case except under the direction of a registered medical practitioner, not to advertise except in recognised medical and nursing papers, and not to sell goods to patients in a professional capacity nor to accept secret commissions on the sale of goods. A high standard of professional honour has thus been attained, and the sweeping away of the evil practices of last century has gained for the Chartered Society the confidence of the medical profession and the general public. There has thus been made available for medical practitioners a service of highly trained and trustworthy assistants in physical therapy, and it is a reasonable hope that they will be employed in preference to other exponents of this therapy who have not accepted such a course of training, nor

[2] THE LANCET, July 6th, 1935, p. 31.
[3] Freyberg, R. H., and Lashmet, F. H.: Amer. Jour. Med. Sci., March, 1935, p. 392.
[4] Porter, W. B., and Simons, C. E.: Ibid., 1934, clxxxviii, 375.

bound themselves not to compete with the medical profession. The evils of uninstructed and uncontrolled physical therapy can only be overcome if members of the Chartered Society receive the full support of medical practitioners; they depend for their livelihood on such coöperation which they have set themselves to merit. The annual congress this year of the Chartered Society is to be held in Harrogate from Sept. 18th to 21st, and its scientific meetings are open freely to medical practitioners on presentation of their visiting cards. Among the subjects to be discussed are: the treatment of hips and spines at American orthopædic clinics; functional disorders and malingering; fibrositis; short-wave therapy; bone regeneration; and the spa treatment of rheumatism. All these topics will be introduced by medical experts.

CATARACT FOLLOWING THE USE OF DINITROPHENOL

ANYONE who has followed recent medical writing on the subject must be aware that opinion on the place of dinitrophenol and allied compounds in the treatment of obesity is sharply divided. Some of the arguments were stated briefly in these columns about a year ago.[1] It was admitted that certain of the nitrophenols are powerful stimulants of katabolism and are therefore bound to be effective in reducing flesh. At the same time, it was pointed out that unpleasant symptoms and even death had followed the indiscriminate use of these drugs, and readers were reminded that the physician commands no means of lowering a basal metabolic-rate which has been raised too far. There is still no general agreement whether the undesirable symptoms encountered are specific toxic effects of the drug, or simply expressions of excessively high metabolism, although it is not easy to attribute some of the recorded symptoms to the latter. Meanwhile two papers from San Francisco[2] provide a strong argument in favour of giving up the use of these drugs for the present. They record six instances of cataract occurring during the treatment of obesity with dinitrophenol; the patients were women in a period of life when spontaneous cataracts are rare, the ages in five being 50, 36, 39, 40, and 30; the cataracts were bilateral and rapidly progressive, becoming measurably worse in periods measured by days and leading in more than one instance to almost complete blindness within a month. Two of the patients had received the drug under strict medical supervision, a third had treated herself, and in the remainder no particulars are given. The authors of the papers urge that "further use of dinitrophenol should be discontinued, pending further study on its secondary systemic effects." It is possible, though very unlikely, that the cataract in these cases was due to some factor other than the treatment. A less improbable explanation is that the particular preparation of dinitrophenol was contaminated with some unknown toxic substance. But with the eyesight of a patient at stake, however slight the risk, the duty of the physician is clear.

Our previous article concluded with the following question: "Is it justifiable, in dealing with a condition which almost always responds readily to a little wholesome discipline (i.e., dietetic restriction), to employ instead a drug of unquestioned potency but uncertain toxicity?" The tragic accidents now described should resolve any lingering doubts about the answer.

[1] THE LANCET, 1934, i., 746.
[2] Boardman, W. W.: Jour. Amer. Med. Assoc., July 13th, 1935, p. 108; Horner, W. D., Jones, R. B., and Boardman, W. W.: Ibid.

AIR RAID PRECAUTIONS

THE first of a series of handbooks on Air Raid Precautions has just been issued by the Home Office. It is entitled No. 2—"Anti-gas Precautions and First Aid for Air Raid Casualties." (H.M. Stationery Office, 6*d*.) The general preface to the series of handbooks emphasises that their production is a measure of precaution only, and does not arise from any belief that war is imminent. This particular handbook has been written for those who would be engaged on first-aid services for the civil population, and especially members of the St. John Ambulance Brigade, the St. Andrew's Ambulance Association and the British Red Cross Society. It deals with the gases and other chemical agents which might be employed in war, and indicates the probable methods of their use. No suggestion is made that there are new gases of exceptional potency. Two types of respirator are described: the general service respirator as issued to the Navy, Army and Air Force, and a simplified pattern designed mainly for persons employed in civil air raid services. The last chapter sets out the organisation of a combined first-aid and decontamination centre for members of the public. In addition to these handbooks the Home Office promises a series of memoranda dealing with the organisation of public air raid precautions by local authorities.

MALIGNANT DISEASE OF THE GALL-BLADDER

Is the possibility of future malignant change a good reason for persuading a patient with gall-stones to consent to operation? Dr. John F. Erdman,[1] reviewing his experience of 525 gall-bladder operations, concludes that it is not. His argument is that, considered statistically, the patient's chance of dying as a direct result of his operation is higher than his chance of subsequently developing cancer in the gall-bladder. Among his 525 cases there were 15 deaths—a mortality of 2·8 per cent.—but only 6 (1·1 per cent.) with malignant change. Erdman would have us, therefore, lay stress rather on the likelihood of chronic ill-health or of repeated colic than on the possibility of cancer. C. F. W. Illingworth,[2] on the other hand, maintains that the danger of cancer developing is quite appreciable, and that, for the prevention of future malignancy, the benefits of excision of the gall-bladder in all cases of calculus cholecystitis far outweigh the risk. The figures he quotes for the incidence of carcinoma following gall-stones—viz., 7–8 per cent. in 500–600 cases (Riedel), and 81 carcinomas in 592 autopsies on patients with gall-stones (Fawcett and Rippelman)—are very considerably higher. In all 5 of Erdman's cases in which operation revealed carcinoma of the gall-bladder, a stone or stones or biliary sand was also present; and in the single case of sarcoma there were five stones. (Sarcoma is, of course, a very remote possibility; he found only 30 cases on record.) Of Illingworth's 50 cases of malignant disease 31 definitely had gall-stones; in 7 they were undoubtedly absent; in 12 there was no record of presence or absence.

Illingworth is convinced that carcinoma of the gall-bladder is preceded in every case by cholecystitis. The patient will therefore tend to give a typical

[1] Ann. of Surg., May, 1935, p. 1139.
[2] Brit. Jour. Surg., July, 1935, p. 4.

gall-bladder history, with "flatulent indigestion, pain below the costal margin, and occasional attacks of biliary colic." Nausea he found to be a constant symptom. The diagnosis of malignancy is very unlikely to be made until the abdomen is opened, since only the presence of metastases can give definite preoperative evidence. Erdman says that jaundice does not develop unless the liver is already invaded. All his cancer patients had the typical pain, in the usual site and with typical radiation, and they later developed digestive disturbances. In one case, operated on for a perforation of the gall-bladder, a suspicion of malignancy at the time of operation was not confirmed by the pathologist's report, but in 7½ months secondary deposits had caused a recurrence of pain and jaundice, and nothing could be done. In the solitary case of sarcoma a definite lump was palpable in the right hypochondrium. Cholecystectomy was performed with ease; the wall of the gall-bladder was 1½ in. thick, and there were present in it several large nodulated masses of a livid to purplish hue. While Erdman thinks that papillomata may be a precursor of cancer, Illingworth holds that they bear no important relationship to one another. In the cholecystogram papillomata show up as patches of decreased density; one such case is illustrated in Erdman's paper. He is strongly in favour of cholecystectomy as the operation of choice in diseases of the gall-bladder. The danger of missing a carcinoma or papilloma in the simple drainage operation is one of his main reasons for this opinion. In his own series, cholecystectomy was performed 522 times, and cholecystostomy 3 times.

Illingworth recognises four pathological types of carcinoma of the gall-bladder—the scirrhous carcinoma, which is the common type, the papillary, the mucoid, and epithelioma (very rare). This last type—an example of a squamous-cell growth occurring in a columnar-cell epithelium derived from ectoderm—is to be regarded as arising by a process of metaplasia, the columnar-cells reverting to primitive form and subsequently assuming squamous characters.

The Duke of Kent has appointed Dr. A. E. Gow, physician to St. Bartholomew's Hospital, to be physician in ordinary to his household.

Sir George Chrystal, secretary to the Ministry of Pensions, has been appointed permanent secretary to the Ministry of Health, in succession to Sir Arthur Robinson. After fifteen years at the Health Ministry Sir Arthur has accepted the chairmanship of the Supply Board, newly reconstituted with a view to the needs of the Defence Services.

INDEX TO "THE LANCET," VOL. I., 1935.

THE Index and Title-page of Vol. I., 1935, which was completed with the issue of June 29th, is now in preparation. A copy will be sent gratis to subscribers on receipt of a post-card addressed to the Manager of THE LANCET, 7, Adam-street, Aldephi, W.C.2. Subscribers who have not already indicated their desire to receive Indexes regularly as published should do so now.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL.—Princess Louise, Duchess of Argyll, recently laid the foundation stone of the nurses' home at this hospital of which she is president. The estimated cost of the new building is £30,000, and £12,000 has already been subscribed. The site has been provided by an anonymous friend who contributed £2000 for the purpose.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Comdr. M. Brown and A. H. Harkins to *Victory* for R.N.B.; and G. D. Macintosh to *Vernon*.

Surg. Lt.-Comdrs. F. B. Quinn to *Victory* for R.N.B.; and M. Barton to *Drake* for R.N.B.; C. R. Boland to *Pembroke* for R.N.B., temp., and to Woolwich (on commg.); J. J. Cusack, M.B., to *Victory* for R.N.B., temp., and to Faulknor; and T. F. Crean, to *Drake* for R.N.B.; F. C. M. Bamford and W. A. Hopkins to *President* for course; C. Keating to *Drake* for R.N. Hospl., Plymouth; G. Rorison to *Victory* for R.N.B.; and W. G. C. Fitzpatrick to *Pembroke* for R.N.B., and to *President* for course.

Surg. Lt.-Comdr. (D) D. Barker to *Woolwich*.

Surg. Lts. S. K. Foster to *Pembroke* for R.N. Hospl., Chatham; and J. A. Page to *Drake* for R.N.B.

Surg. Lts. (D) A. W. Y. Price and F. A. Pearse to rank of Surg. Lt.-Comdr. (D).

Act. Surg.-Lts. R. S. Jenkins, L.D.S., and W. J. Wolton, L.D.S., to be Surg.-Lts. (D).

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lt.-Comdrs. R. L. Stubbs to *Victory* for R.N. Hospl., Haslar; and E. E. Henderson to *Furious*.

Surg. Lt. T. H. Pierce to *Renown*.

ARMY MEDICAL SERVICES

Col. T. S. Dudding, O.B.E., late R.A.M.C., having attained the age for retirement, is placed on ret. pay.

Lt.-Col. G. F. Rudkin, D.S.O., from R.A.M.C., to be Col.

ROYAL ARMY MEDICAL CORPS.

Majs. to be Lt.-Cols.: W. P. Croker and E. W. Wade, D.S.O.

Capt. R. A. Bennett to be Maj. Jan. 29th, 1935. (Substituted for notification in the *Gazette* of Feb. 8th, 1935, vide THE LANCET, Feb. 16th, 1935, p. 398.)

REGULAR ARMY RESERVE OF OFFICERS

Maj. Sir Robert G. Archibald, C.M.G., D.S.O., M.D., having attained the age limit of liability to recall, ceases to belong to the Res. of Off.

ARMY DENTAL CORPS

Lt.-Col. W. M. Ferguson, having attained the age for retirement, is placed on ret. pay.

Maj. G. F. Charles to be Lt.-Col.

Maj. (prov.) A. H. Kay reverts to the rank of Capt.

TERRITORIAL ARMY

J. J. M. Brown (late Cadet, Edinburgh Academy Contgt., Jun. Div.), O.T.C., to be Lt.

Lt. A. C. Armstrong to be Capt.

G. Carruth (late Offr. Cadet, Queen's Univ., Belfast, Contgt. (Med. Unit), Sen. Div., O.T.C.), to be Lt.

ROYAL AIR FORCE

MEDICAL OFFICERS AS PILOTS

An amendment to the King's Regulations and Air Council Instructions provides that a medical officer who has qualified as a pilot may, when facilities exist at the unit to which he is posted and provided he is medically fit, keep himself in flying practice. Unless, however, he has flown solo during the preceding three months and has had solo flying experience in the type of aircraft which it is proposed to fly, the C.O. will ensure that he receives adequate dual instruction in that type before he flies solo.

Wing. Comdr. R. W. Ryan to Central Medical Establishment for duty as President of the Central Medical Board.

Dental Branch.—H. M. G. Williams, L.D.S., is granted a non-permanent commission as a Flying Officer.

RESERVE OF AIR FORCE OFFICERS

Flight Lt. P. J. Nyhan relinquishes his commission on completion of service.

INDIAN MEDICAL SERVICE

Capts. to be Majs. (provl.).—Bt. Maj. M. S. Gupta, S. P. Joshi, R. Linton, and H. W. Mulligan.

The Commander-in-Chief in India has made the following appointments:—

Lieut.-Col. P. S. Tomlinson, D.S.O., as D.A.D. of Medical Services for Mobilisation, Northern Command.

Lieut.-Col. G. F. Allison, M.C., as D.A.D.M.S., Northern command.

Major-General J. F. Martin, C.B., C.M.G., C.B.E., is granted two months' leave from August 7th, when he will vacate his officiating appointment as Director of Medical Services in India. At the expiry of his leave he will vacate his substantive appointment of D.D.M.S., Western Command.

Dr. A. H. L. Thomas has been appointed Admiralty surgeon and agent for London district No. 15 (Westminster, Victoria, &c.).

PROGNOSIS

A Series of Signed Articles contributed by invitation

LXIII.—PROGNOSIS OF HALLUX VALGUS AND HALLUX RIGIDUS

Hallux Valgus

UNCOMPLICATED hallux valgus is a painless static condition like genu valgum, and may be present for many years without symptoms. It is the bursitis which so often supervenes that causes pain, and when inflammation or even suppuration are added, the condition becomes extremely disabling. Over-riding toes may also cause pain by producing troublesome corns and callosities. We must therefore be cautious of advising operative treatment in the absence of pain unless, as sometimes happens in young women, it is desired purely with the object of improving the appearance of the feet. Palliative treatment is, on the whole, ineffective and the proprietary bunion pads are of little use. In an early or mild case it is sometimes worth while trying faradism to the short muscles of the foot and a plaster-of-Paris splint to be worn at night, but the mechanics of the condition demand a shortening of the bony pier on the inner side of the foot and any treatment that fails to achieve this is rarely successful. If operation is advised it should be restricted to such toes as cause pain, and an infected bursitis must first be cleaned up, even though this may necessitate a preliminary ten days in bed. It probably matters very little whether the head of the metatarsal or base of the first phalanx is excised so long as enough bone is removed to allow of full correction. The toe is held in position for ten days after operation by some form of semi-rigid bandage, and at the end of that time the patient may begin to walk. It will usually be three weeks from the operation before an ordinary shoe can be worn, and progress is naturally quicker in unilateral than bilateral examples.

There is a great tendency for patients to try to spare the inner border of the foot by walking on its outer edge, and this is the commonest cause of failure after operation. Every patient should be told he *must* bear weight on the inner border of the foot lest he gives himself a secondary metatarsalgia. A. Blundell Bankart has advised an *outside* wedge of ¼ in. after operation, and this should be a standard post-operative precaution.

Patients vary in the duration of convalescence, which occasionally is very slow. This is often because they are not made to realise the necessity of early weight-bearing on the operated toe, and are allowed to hobble around for months on the outer borders of their feet, courting secondary metatarsalgia and usually getting it. A determined or understanding patient will recover very rapidly, and I recall a girl of 19 who was in the semi-final of a tennis tournament less than four months after a bilateral operation, and an out-patient sister who returned to her exacting duties three weeks after a similar operation.

Operation for hallux valgus has an undeservedly bad reputation, and results are much better than is often believed. The two fundamental secrets of success are (1) to remove enough bone, and (2) to get the patient to bear weight early on the operated toe.

Hallux Rigidus

Hallux rigidus is an entirely different condition. It is not a static deformity but a degenerative osteo-arthritis. It occasionally follows an injury, but is much more often like (hallux valgus) a manifestation of the flattening foot which (in straight-toed individuals) induces an osteo-arthritis by the repeated trauma of phalanx and metatarsal being crushed against one another. The earliest manifestations are restricted dorsiflexion and the development of dorsal osteophytes. Dorsiflexion of the big toe takes place every time we lift our heel to take a step forward, and this becomes painful or impossible. Palliative treatment consists in trying to eliminate this movement of the toe by the insertion of a steel plate in the sole of the shoe. It removes the natural spring from walking, and is rarely a conspicuous success. Splints worn inside the shoe are more efficient but less comfortable, and operation is frequently demanded for the relief of pain. Osteo-arthritis elsewhere is often best treated by arthrodesis, but the mechanics of walking make this procedure unsuited to the metatarso-phalangeal joint. It is therefore proper to excise the head of the first metatarsal with its peripheral osteophytes, and to leave the base of the first phalanx alone.

In contradistinction to hallux valgus, the big toe is sometimes stiff after operation, but there is usually a great relief in spite of this, and a patient is generally able to resume activities and even games which were previously impossible.

ERIC I. LLOYD, M.B., F.R.C.S.,
Orthopædic Surgeon to the Royal Northern Hospital, and Surgeon to the Hospital for Sick Children, Great Ormond-street.

TOXICITY OF INDUSTRIAL SOLVENTS.—At the request of the Home Office, the Medical Research Council have undertaken to promote investigation into the question whether various volatile substances might injure the health of workers using them under industrial conditions. To assist and advise them in this matter, the Council have appointed the following special committee. Sir Joseph Barcroft, F.R.S. (chairman); Dr. J. C. Bridge; Prof. A. J. Clark, M.D., F.R.S.; Mr. A. G. Green, F.R.S.; Prof. J. A. Gunn, M.D.; Prof. E. H. Kettle, M.D.; Dr. H. B. Morgan; Mr. J. Davidson Pratt; Mr. D. R. Wilson, C.V.O., C.B.E.; and Sir David Munro, F.R.C.S.Edin. (Secretary).

SPECIAL ARTICLES

BRITISH MEDICAL ASSOCIATION

PROCEEDINGS OF THE REPRESENTATIVE BODY

(*Concluded from p. 212*)

The Services

In proposing the adoption of the remainder of the Council's report under "Naval and Military," Dr. F. W. GOODBODY accepted a request by Torquay (Dr. E. WARD) asking the Council to consider the adequate representation of the Home Defence Forces on the Committee. He said that the Admiralty appeared to be applying satisfactorily the terms of service recommended in the Warren-Fisher report and that the Naval Medical Service was worthy of support by the Association. Conditions in the R.A.F. Medical Service seemed to be much the same; owing to expansion, civilian doctors were being employed, and their conditions would have to be watched very carefully. The Directors-General of the two senior services were made Rear-Admiral and Lieutenant-General respectively, on appointment, but the Director-General of the R.A.F. Medical Service had not yet been made an Air Vice-Marshal.

Rear-Admiral A. R. THOMAS said that the Admiralty had faithfully tried to apply the recommendations of the Warren-Fisher Committee, and substantial benefits had been obtained. Plenty of applications, of high standard, were being received, and he had no hesitation whatever in advising a man to join this service. The new regulations should be given a chance.

Dr. GOODBODY moved a motion expressing satisfaction with the R.A.M.C., saying that valuable concessions had been secured from the Army Council and criticism should be withheld at the present time. An officer could now retire after five years' good experience with a fairly substantial grant; further, on medical matters, the medical officer was to be allowed access to the Army Council, and the Director-General could go straight to the Secretary of State. There was a great shortage of R.A.M.C. Territorial officers, concluded Dr. Goodbody, and he hoped that representatives would help to remedy this. After strong reasoned support from Col. J. W. H. CONWAY, Col. C. H. H. HAROLD, and Dr. G. F. GIBBONS, the meeting passed the motion. The CHAIRMAN congratulated the Committee on a brilliant piece of work. The report under "Indian Medical Services" was also approved, on the motion of Sir RICHARD NEEDHAM, who explained how this service had been reconstituted.

Hospitals

Dr. PETER MACDONALD moved the adoption of the Annual Report on Hospitals, and also—

That para. 5 of the Summary of Conclusions and Recommendations of the Association's Report on the Problem of the Out-patient be amended by the addition of the following:—All patients presenting themselves at hospital for treatment without a doctor's letter should be examined by a registered medical practitioner on the Staff of the hospital. Such cases will fall into two categories: (1) Emergency cases; (2) Non-emergency cases, and should be dealt with as follows: *Emergency cases* should receive appropriate first treatment, and if no special hospital treatment is required, be referred back to their own doctors. The term "own doctor" means the doctor from whom the patient would ordinarily obtain domiciliary treatment. *Non-emergencies*, unless they require special treatment which can be obtained only at hospital, should be referred back to their own doctor without receiving advice or treatment."

[Para. 5 of the Conclusions and Recommendations at present reads: "Further checks and safeguards should be established at all voluntary hospitals before treatment is undertaken at the out-patient department."]

Southampton, however, wished to delete:—

"*Non-emergencies*, unless they require special treatment which can be obtained only at hospital, should be referred back to their own doctor without receiving advice or treatment," and to substitute:—"*Non-emergencies*, except the necessitous poor, shall be referred back to their own doctor."

In the absence of its representative and on the vigorous opposition of Dr. MACDONALD, the meeting rejected Southampton's amendment, which, said Dr. Macdonald, would only irritate all concerned and was a retrograde step in the Hospitals' Policy, which considered that there was no need to differentiate the necessitous poor. Dr. STRATFORD proposed the omission of the words "unless they require special treatment which can be obtained only at hospital"; for who, he asked, was to decide what that was and to estimate the abilities of any given general practitioner?—Dr. H. D. WOODROFFE (Oxford) added that there was no hurry about these patients, who could wait for proper reference by their doctor and who should be discouraged from dropping into hospitals for special treatments.—Dr. WAND (Birmingham) said that the words "obtained only at hospital" accurately defined "special treatment," and thought it important to find a form which hospitals would accept.—Dr. E. R. C. WALKER and Dr. F. GRAY supported the amendment, proffering their experience in Aberdeen and at the Bolingbroke Hospital, Wandsworth.—Dr. MACDONALD failed to persuade the meeting that there was nothing much in the amendment after all, though he pleaded for the countryman who came a long journey from a district where no specialist treatment was available.

As the result was 65 votes to 50 in favour of the amendment, there was no two-thirds majority as required to alter the policy of the Association. The amendment was put as a substantive motion, with this warning, and the necessary majority was then obtained.

Dr. MACDONALD then brought forward a motion reiterating that consultants should use the second page of the Association's model hospital letter in writing to doctors whose patients had come without a letter.—Birmingham objected again, as it had last year, and Dr. WAND moved:—

"That the recommendation be amended by the deletion of the words 'second page of the form when returning the patient to his own doctor,' and the substitution therefor of the following:—

'.....Hospital.
.....Date.

Dear Dr.....
I have to-day seen your patient.....and am of the opinion that he, or she, is suffering from.....
I have therefore (1) admitted him/her.
(2) Ordered the special appropriate treatment.
(3) Given emergency treatment.
(4) Referred him/her back to you.
Yours faithfully,
.....'

"That the Association take steps to make available to hospitals a supply of the form referred to in the foregoing Motion."

He could not see, he said, what confusion could be caused by the use of two forms. The use of the form

proposed would educate young house-surgeons in the B.M.A. policy.—Dr. J. A. BROWN was amazed that this resolution should have had to be brought up again after being passed by a large majority last year. The second page of the model form was practically a blank sheet and not in any way comparable with the form proposed.—Dr. A. MACCARTHY pointed out that the form Birmingham wanted to use was for cases where the patient brought no letter with him and so the consultant had no "second page" to use.—Dr. MACDONALD thought Birmingham's form an excellent one, but the other was already in wide use. Mr. MCADAM ECCLES regarded it as disastrous to try to upset the quarter of a million forms already in circulation, and said Birmingham could have its own form if it liked. Birmingham gained support from Dr. GRAY (Wandsworth) and Dr. KEITH GIBSON (Kensington). The London Panel Committee, said Dr. GIBSON, and the London Public Medical Service had gone to the trouble of printing their own forms, as they felt they needed more than the B.M.A. form. They convinced a large majority of the representatives, and the amendment was carried.

Dr. HOWIE WOOD (Isle of Wight) proposed, and agreed to refer to Council :—

"That the Representative Body is of opinion that when members of the honorary staff of a voluntary hospital receive payment for services rendered to a public authority, or receive monies in the form of a staff fund in connexion with their work under a contributory scheme, their status as members of the honorary staff of the hospital should not be affected; and that the Council be instructed to consider what, if any, amendments to the Hospital Policy of the Association are necessary in order to give effect to the foregoing."

The Supplementary Report under "Hospitals" brought a long statement from Dr. MACDONALD, as it dealt with provident schemes for middle-class persons. Last year, the Council was asked to arrange for a payment to the general practitioner to be included in these schemes, and it regretfully reported itself unable to do so. Schemes for specialist services seemed to rest on a much more secure actuarial basis than could be provided for general practitioner attendance, and it would prove almost impossible to define a "general practitioner condition." There were, said Dr. Macdonald, no data on the costs of "g.p." treatment. The Association was going to call a conference to consider the establishment of a permanent central body to coördinate the activities of local provident associations; the subject could then be raised once more.

Manchester wished to refer the matter back to Council, because some general practitioners were already being paid.—Dr. R. BOYD said that if the scheme were limited to specialists the principle of free choice of doctor must be infringed. Several bodies in Manchester and other towns had paid general practitioners for years. He did not wish, he concluded, to go back to his division and say that the B.M.A. had again let down the general practitioner. —Mr. MCADAM ECCLES thought the day had not yet come, though he hoped it soon would; meanwhile investigation must go on—there was great need for grants-in-aid towards serious illnesses demanding specialist services.—Dr. WATERFIELD asked Dr. Boyd to withdrawn this motion, as the matter had been thoroughly studied and the Council had done all it could do at present.—Dr. KEITH GIBSON could not follow the extent to which cases and their doctors might go to hospital under provident schemes.—To which Dr. MACDONALD replied that the answer could only be given by an individual provident scheme. Reference back to Council, he added, could only have the same result again; the Representative Body must either approve the report or withdraw its approval of last year. Manchester's motion was, however, carried by a small majority (45–39).

Medical Benevolence

Dr. E. E. BRIERLY presented the Council's report under this heading, pointing out that a number of children in Scotland were being educated at day schools in addition to the 56 Foundation Scholars maintained at Epsom. There had been an increase in subscriptions of over £700, apart from a windfall of £925, the residue of the late "Dr. Cooke Appeal Fund." The year before the establishment of the Charities Fund and Committee the sum of £1616 had been subscribed for medical benevolence; this had increased to over £7000, but was still quite insufficient. —Dr. LEWIS GLOVER (Hampstead) said the panel committees were coming along splendidly.

Miscellaneous Motions

Dr. WATERFIELD proposed three motions for Kingston :—

"That it is the opinion of the Representative Body that instruction in anti-chemical warfare measures, should be given to medical students.

"That similar instruction should be available for post-graduates.

"That in view of the necessity for educating the public in measures of protection against chemical warfare, the B.M.A. should ask for the coöperation of its members."

The CHAIRMAN said that he and Dr. Anderson had recently been invited to a conference on these matters at the Ministry of Health, which was fully alive to the problem and to the value of the Association's organisation for disseminating knowledge.—Dr. F. C. GITTINGS invited any member to go to Portsmouth for a week's anti-gas course free, and Dr. N. WEST-WATSON described the campaign of the St. John Ambulance Brigade and British Red Cross. Dr. E. CASSON emphasised the danger of alarming the general public and recommended the example of the Dutch medical profession's "war prophylaxis committee." Kingston's motions were carried.—Dr. A. T. JONES (Brecknock) proposed that the Council should consider means of opposing and preventing all chemical warfare. To get rid of war, said Dr. H. CAIGER (Sheffield), was the duty of this generation, just as the nineteenth century had got rid of slavery. The meeting cordially agreed.

Sheffield found the working of the Workmen's Compensation Act very unsatisfactory as regards miners' nystagmus, and Dr. CAIGER gave a full statement of the problem, emphasising the anxiety neurosis involved, the high incidence in miners over 50, the small amount of disablement, and the difficulty of distinguishing those disabled from those not disabled. The first result of the Act, he said, had been injustice to the employers, and their reaction had brought hardship to the men. The medical profession could solve this difficult problem by insisting on better lighting in the pits, the provision of suitable work for patients and more accurate certification. It had been shown that miners with slight nystagmus could go on working with better light and be cured. Mr. BISHOP HARMAN supported the resolution, which was carried, asking the Council to initiate action on the matter.

Dr. B. H. PAIN, for Tunbridge Wells, urged the importance of getting medical men on the boards of local authorities and asked the Council to consider the establishment of a fund to help medical candidates at local elections. His eloquent appeal was supported by Dr. W. ASTEN, who nevertheless said that Bournemouth objected to the fund, and asked the Council instead to consider the wisest procedure to ascertain the candidates most fitted. The amendment was feelingly seconded by Dr. W. G. WILLOUGHBY (Eastbourne), who had seen many medical members on local authorities. He thought a fund would greatly reduce the doctor's chance of election, as the candidate must represent a district and not a special interest. Dr. A. B. MURRAY also urged that medical men should come forward on their own merits and not as sectional representatives. Support on these lines came further from Dr. H. ROBINSON (Kensington), Dr. MIDDLETON MARTIN, and Sir HENRY BRACKENBURY. This weight of argument drowned the faint appeals made for the impecunious candidate, and Tunbridge Wells withdrew their motion in favour of the amendment brought forward by Bournemouth.

Torquay (Dr. WARD) proposed :—

That in view of the fact that certain non-nationals are being admitted to the Medical Register after only an abbreviated course of study in the British Isles, and are coming into competition with our own practitioners, the Representative Body instructs the Council to press for the enforcement of the three years' mimimum course of study in recognised medical schools before non-nationals can be admitted to the Medical Register of the United Kingdom.

He quoted figures in support of his division's apprehension and was supported by Mr. MCADAM ECCLES, who thought altruism could be carried a little too far. Sir HENRY BRACKENBURY pointed out that only the Licensing Bodies had any power in this matter, and all of them except the Scottish Colleges were agreed on this resolution. The B.M.A. had no power over them, but could, of course, express an opinion. The CHAIRMAN OF COUNCIL was anxious that this motion should not suggest that the Association had been idle in this matter; it had done everything in its power. —Mr. BISHOP HARMAN said that the Association had never gone straight to the Scottish Colleges and told them the opinion of the profession. Torquay agreed to put its resolution in the form of an instruction to take this direct action, and thus carried it.

Scotland

Dr. J. B. MILLER presented the Annual Report under Scotland. Among other activities the Committee had, he said, given evidence on the training of nurses. A great change had taken place in nurses' training since 1929 and it was possible for a girl to go through her full training without ever nursing pneumonia, which was now treated in municipal hospitals. She could only get a full training by moving from hospital to hospital for about eight years. The Association had recommended a period of five years and three months, the first year to be an academic one which could bridge the gap between school-leaving certificate (recommended as the standard of entry) and hospital work. A pension scheme had been urged. Free choice of consultant had now been ensured for Scottish teachers.

Dr. E. R. C. WALKER proposed for Aberdeen, and the CHAIRMAN OF COUNCIL accepted, that :—

"In view of the new ideas on the administration of Health Services which developed in the course of the preparation and giving of Evidence on behalf of the Association by the Scottish Committee before the Departmental Committee on Health Services, it be remitted to Council to reconsider and, if necessary, revise that part of the Association's General Medical Service Scheme for the Nation which deals with the administration of Medical Services."

The units, he said, rarely corresponded with any local authority, and some coördinating mechanism was needed. He deprecated the establishment of yet another committee to deal with medical services and did not think a local authority was properly equipped for this function. "For forms of government let fools contest; whate'er is best administered is best," he concluded.—Sir HENRY BRACKENBURY thought the proposition was a possible one for Scotland but impossible for England and Wales.—Dr. R. A. PICKEN did not agree, but the CHAIRMAN ruled that it was being considered for Scotland only.—Dr. G. DUNLOP (Glasgow) said the position of Scottish negotiators would be made very difficult if the motion were not passed.

Medical Education

Sir HENRY BRACKENBURY proposed the approval of the report of the Medical Education Committee, including its special curriculum recommendations.[1] The committee observed with approval several recommendations made to the General Medical Council by its own committee, but noted that a few were not in accordance with the Association's views. Every observation made by the B.M.A. would be taken into serious consideration by the G.M.C. in November. Dr. R. K. ROBERTSON (Sheffield) did not agree that the minimum age for registration should be 18, as the course was already long and some people were older at 16 than others at 20. The CHAIRMAN said he thought this report was one of the finest reports on education that had ever been produced, and it was very largely due to Sir HENRY BRACKENBURY. The motion of approval of the report was carried with acclamation.

Dr. MONA MACNAUGHTON proposed for Newcastle :

"That in arranging the curriculum for students, steps should be taken to ensure that they have a course of instruction with an approved general practitioner after their qualifying examination, but before they are entitled to register."

She thought that this would greatly increase the efficiency of the practitioner. The art of medicine was found in no text-book and was invariably learned by the young doctor from his elders and betters. Minor ailments and treatments, early signs of disease, the working of the National Health Insurance Acts and the business side of practice could only be learned this way. Moreover, the training would be invaluable for those who were not going into general practice, and would lead to better coöperation between the different branches of the profession afterwards. It could never be in the public interest that a doctor should take on a practice single-handed the day after qualification. Loud and prolonged applause greeted her speech and Sir HENRY BRACKENBURY agreed with every word of it except her hope that the motion would be passed. The recommendation could not be carried out at the present time, he said. The Committee thought the period of responsibility should be within the five years' curriculum; nor was it convinced that service as an assistant was the sole means of acquiring responsibility under supervision. At the moment the curriculum should not be prolonged for this purpose. Newcastle refused to withdraw the motion.—The CHAIRMAN OF COUNCIL expressed agreement with both parties and advised the Representative Body to move to the next business, which it did.

[1] THE LANCET, 1934, i., 905.

MEDICINE AND THE LAW

With all Due Respect

IT is our national habit proudly and gladly to honour our judges. Especially do we hold in regard the Lord Chief Justice of England. His judicial reputation laymen must leave to the Court of Appeal. Even laymen, however, can appreciate his sincerity of purpose and his happy gift of eloquent exposition. The medical profession in particular can recall several judgments which have revealed his intimate understanding of the responsibilities of surgeons and physicians. We hope then that we may attribute to some mere hot-weather aberration a brief incident reported from the Central Criminal Court last week. A man named Quarry was being tried for the wilful murder of his wife. The defence was epilepsy. A specialist in mental disease, called by the defending counsel, stated that he had examined Quarry in prison and that in his opinion Quarry suffered from epilepsy; during an epileptic attack, he explained, the patient would not know what he was doing or whether it was right or wrong. Then followed this question from the bench:—

The Lord Chief Justice: "I want you to answer this 'Aye' or 'Nay.' Did you not go to see the prisoner on July 6th for the purpose, if possible, of swearing afterwards that he was epileptic?"

The Witness: "Certainly not."

Members of the public, we find, confirm the view that Lord Hewart's question conveyed the suggestion that a medical witness was ready, for payment, to swear what was wanted rather than what was true. If that is the innuendo, we profoundly regret an inurbanity which must render uncomfortable the future appearances of medical witnesses in Lord Hewart's court. The question was one which we should hope that few judges would permit to be put by counsel to a professional witness. When it is put directly from the bench, the apparent discourtesy affronts the whole profession.

There are legal entomologists whose humour it is to collect and classify the bees that sometimes buzz within the judges' bonnets. No evidence of judicial apiculture will ever make us reverence our judges one whit the less. The murmurous hum of little wings is happy proof that the almost supernatural beings who wear the ermine are of the same human clay as ourselves. We still look to them to be the guardians of our ancient liberties, to sound from the church tower the tocsin warning us against the encroachments of the bureaucracy, no matter what bats are in the belfry. As the recent case at the Old Bailey reminds us, Lord Hewart has not infrequently attacked the medical attitude towards criminal responsibility. Of this we have no complaint whatever. Let it be granted that the law is crystal clear and that the foolishness of doctors merely befogs it. The doctor is brought into court to provide the material of facts and opinions out of which lawyers on one side or the other will spin their legal arguments. Undoubtedly there are two aspects of the problem of crime and insanity. Undoubtedly, when the issue is the nature and degree of the patient's malady, the origin, development, and treatment of his abnormality, then the medical view is entitled to consideration. When the issue is the accused man's responsibility under the law, then Parliament, the judges, and the Home Office must have the last word. On the existence, the symptoms, and the physical effects of epilepsy doctors are entitled to be heard. The difficulty of diagnosis, the risk that dangerous criminals may go unpunished through the success of a too facile defence—these are matters on which any judge may justifiably insist. It will hardly be denied that the law prefers to stand still while the science of medicine aspires to gradual progress. In 1922 a Lord Chancellor set up a committee to consider what changes, if any, were desirable in the existing law, practice, and procedure of criminal trials where the defence of insanity is raised. A distinguished judge, Lord Atkin, presided over the committee; its membership admirably blended the wisdom and experience of the bench, the Home Office, and the experts who are concerned to prosecute in criminal cases. The committee found that changes were desirable. Legislation, it observed, might be necessary. No such legislation has since been passed; the desirable changes are not yet made. While the law thus stands, we cheerfully admit that it is the exclusive function of the judges to expound it. It may well be their duty to remind us that in a court of law it is the legal, not the medical, view which must prevail. But it will be a matter of profound disappointment and surprise if this judicial task cannot be performed without discourtesy. May we beg for some token that the offensive question will not recur? If there were not a prejudice against judicial journalism, we could respectfully have offered Lord Hewart the hospitality of our columns for the purpose. As things are, we look anxiously for some reassurance that medical witnesses can continue to give evidence in his court without apprehension.

Alleged Food Poisoning

In Cattermole *v.* Marks and Spencer, Ltd., the plaintiff failed last week in a claim for damages for alleged breach of implied warranty that a tin of peas bought at the defendants' shop was fit for human consumption. Her case was that she opened the tin, washed and cooked the peas for the Sunday luncheon of her husband and herself. The other food consisted of chicken, potatoes, fresh greens, stewed fresh plums and cream. The husband did not eat the peas and suffered no ill-effects; she herself ate freely of them and after a few hours felt very ill. Next morning a rash developed. On the Wednesday her doctor diagnosed food poisoning: for some days she was acutely ill, her face was swollen and the rash spread all over her body. After six months her doctor was still attending her. The defendants suggested that she suffered from acute dermatitis, possibly caused by some external agent such as a hairwash; but the plaintiff and her hairdresser repudiated this explanation. The defendants proved that they bought all their tinned peas from a Stratford-on-Avon firm, their purchases exceeding two million tins and this being the first complaint. Analysis of similar tins of peas showed no living bacilli or spores. The modern methods of cleaning and sterilising fruit in the canning industry were explained. It was contended that, if anything went wrong with the peas, the harmful results could not be limited to one tin, since the contents of 600 tins were prepared at the same time; the only risk would be from a "blown" tin where the fault would be in the metal, not in the fruit, and where the peas would have a frothy look and the taste of them would at once show that something was amiss.

Mr. Justice Lewis was satisfied that Mrs. Cattermole had suffered as alleged, but he said it did not follow that her claim could succeed. A rash of the skin could result from eating food perfectly fit for human consumption, through some idiosyncrasy of the

person eating it. The judge was impressed also by the absence of vomiting and diarrhœa. He could not disregard the evidence of the precautions taken by the canning firm at Stratford-on-Avon. He was satisfied that their methods were scientific and up to date and that the possibility of contamination was extremely remote. He found that the plaintiff had failed to make out her claim. His judicial tribute to the manufacturers' methods will be valued by the British canning industry, which has been fostered and developed by the Ministry of Agriculture. Counsel for the defendants was at some pains to combat the impression that tinned food was more likely to be harmful than fresh food. Nowadays, he claimed, scientific preparation and sterilisation caused tinned food to be less likely to contain poison than fresh food.

INTERNATIONAL NEUROLOGICAL CONGRESS

THE FIRST DAY'S PROCEEDINGS

NEUROLOGISTS from forty-two countries met at the Second International Neurological Congress which was held in London this week. The congress was opened by the president, Dr. GORDON HOLMES, F.R.S., who laid stress upon the necessity for international coöperation as the basis of progress in truth and knowledge.

The Epilepsies

The first day was devoted to a discussion of the epilepsies.

Prof. JEAN ABADIE (Bordeaux) remarked upon the striking change in the conception of the nature of epilepsy which had occurred during the last fifty years. Epilepsy was no longer regarded as a true disease, but merely as an anatomo-clinical syndrome. He considered that it was neither constitutional nor innate, but personal and acquired. It was not a neurosis without an organic substratum but a syndrome always the result of cerebral lesions, however variable their nature. The commonest causes were lesions of the brain produced by obstetrical injuries, cranio-cerebral injuries occurring in childhood and the toxi-infective states of infancy, among which congenital syphilis was specially mentioned. It followed that there was a real ætiological link between epilepsy and infantile convulsions.

Dr. WILLIAM G. LENNOX (Boston) described the results of some striking investigations which had been carried out in his own laboratory. He considered only the rôle of the cerebral circulation and of oxygen metabolism in the production of epileptic convulsions. The flow of the blood through the brain had been recorded in 10 patients. There was no decrease in the blood flow before the convulsion and no evidence in support of the time-honoured theory that an epileptic attack was the result of generalised cerebral arterial spasm. Nor was there any evidence that anoxæmia was a cause, though in 13 patients who suffered from petit mal an attack could be induced by anoxæmia, and it had been shown that a raised oxygen tension in the blood of epileptics diminished the ease with which convulsions could be produced by over-breathing. Dr. Lennox said that hitherto there had been no method of discovering what was happening to the cerebral neurones themselves during an epileptic fit. This gap in our knowledge had now been filled by electro-encephalography, a method of recording changes of electrical potential within the brain. Records had been made from the brains of 31 patients, who all showed abnormal waves beginning before the attack and increasing in amplitude during the attack. No waves were visible during the phase of post-epileptic stupor. Petit mal seizures were invariably preceded or accompanied by a burst of electrical potentials of about ten times the voltage and about one-fifth the frequency of the patient's usual potentials. The form of the large waves was individual for each patient. Furthermore, the electro-encephalograms of patients recorded during phases of freedom from attacks showed similar but smaller disturbances of rhythm suggestive of larval or subthreshold seizures. The interpretation of these phenomena was uncertain, but it appeared that during an epileptic attack an abnormal synchronisation of nerve impulses occurred and there was an integration in time, so that the harmony of the symphony orchestra was reduced to a single note.

Prof. E. A. SPIEGEL (Philadelphia) said that the fundamental mechanism in the pathogenesis of convulsions must be sought in alterations in the excitable nervous elements themselves. Excitation had been attributed to changes of ion concentration on semipermeable cell membranes. As a result of the semipermeability polarisation phenomena occurred that could be used to measure changes in permeability. It had been found that states productive of convulsions—such as asphyxia, anæmia and increased intracranial pressure—caused a fall in conductivity of the brain, but the opposite effect was produced by narcotics.

Dr. F. FRISCH (Vienna) discussed the rôle of disordered metabolism in the production of epileptic attacks. He emphasised that metabolism played essentially a dynamic part and said that the typical feature of the metabolism of the epileptic was its lability. Changes had been described in many metabolic functions. There was often a preparoxysmal depression of nitrogen excretion in the urine. The metabolism of water and of salt had an important bearing upon changes in colloidal structure. The acid-base ratio had also been investigated, and it had been shown that alkalosis, in the sense of deviation of the actual reaction of the blood towards the alkaline side, was an important ætiological factor in precipitating the epileptic attack. There was as a rule a preparoxysmal diminution in the alkali reserve. A problem of current interest was the question whether sugar metabolism had any bearing upon the ætiology of epilepsy. The importance of metabolic changes lay in the fact that the excitability of the ganglion cells of the nervous system was a function of the chemical organisation of the cell.

Dr. K. ORZECHOWSKI (Warsaw) discussed the part played by the vegetative nervous system in the pathogenesis of epilepsy. He said that in genuine epilepsy the final and immediate cause of the attack was vascular spasm, the localisation of which determined whether the attack was epileptic, narcoleptic, or took some other form. None of the changes which might precede the attack, whether hormonal or vegetative, chemical or hæmatological, were peculiar to epilepsy, and hence they could only act as precipitating factors. In epilepsy proper the spasm occurred in the cortical vessels; in narcolepsy in those of the base of the brain; in pyknolepsy in the vessels of the cerebellum. The anatomical substratum of epilepsy was the complex pia-arachnoid—vasomotor nerves—vessel.

Prof. M. MINKOWSKI (Zurich) reviewed the pathological anatomy of epilepsy. He said that in patients who had died of status epilepticus recent changes were found in the tissues of the nervous system. The

vessels of the brain showed congestion. The ganglion cells of the parenchyma of the nervous system exhibited acute degenerative changes in the form of chromatolysis and swelling. Changes were also found in the neuroglia and in the choroid plexuses and the ependyma of the ventricles. In epileptics in whom the disease was of long standing proliferation and thickening of the walls of the cerebral vessels was found. In the nervous parenchyma there was the well-known sclerosis of the cornu ammonis, and elsewhere, especially in the cerebral cortex, were alterations of a degenerative, atrophic or sclerotic character. Chronic changes had also been described in the glia and in the choroid plexuses. In the meninges a serofibrinous or cystic arachnoiditis had been noted. Persistence of the thymus and various chronic changes in the endocrine organs had been described.

Dr. A. ULRICH (Zurich) discussed the medical treatment of epilepsy. The administration of bromide had been controlled by an accurate estimation of the bromide content of the blood. It had been found possible to correlate the bromide level with the degree of narcosis produced in the patient. The antagonism between bromide and chloride had been investigated and it had been found that when twice or three times as much sodium chloride as bromide was administered symptoms of bromide intoxication did not appear. The bromide in the blood must be maintained at a level which depended upon the severity of the epilepsy.

Prof. WILDER PENFIELD (Montreal) spoke on the surgical therapy of the epilepsies. He pointed out that a focal lesion of the brain was present even in cases of so-called idiopathic epilepsy more often than was generally supposed. When the history, the presence of abnormal physical signs in the nervous system or the pattern of the attacks suggested the possibility of a focal lesion an encephalogram should be carried out and an attack observed. When the brain had been exposed at operation the cortex should be investigated by electrical stimulation. The lesions which lent themselves to surgical treatment were a scar uniting the meninges to the brain and areas of focal cerebral atrophy and cicatrix. The excision must be made through normal brain tissue and should, if possible, reach the ventricle. Of 22 patients treated by radical excision of a meningo-cerebral cicatrix 10 had remained free from attacks, and 7 were markedly improved. In another 22 cases radical excision of areas of focal atrophy and focal cerebral cicatrix had been performed, and of these patients 9 were free from attacks and 7 were improved.

Dr. M. SGALITZER (Vienna) described favourable results achieved in epilepsy by X ray irradiation and the technique he employed.—Dr. L. J. J. MUSKENS (Amsterdam) referred to the difficulties of treating epileptic patients at general hospitals and the advantages of special institutions for this purpose.—Dr. H. URBAN (Vienna) gave an account of the therapeutic effects of the lumbar insufflation of air and the intracarotid injection of thorotrast.—Papers were also read by Dr. A. E. KORNMÜLLER (Berlin), Dr. A. SCHÜLLER (Vienna), and Prof. G. STIEFLER (Linz), and Prof. OTTO MARBURG (Vienna) summarised the discussion.

BATTERSEA GENERAL HOSPITAL.—Six wards of this hospital, which had been closed for lack of funds, were reopened on July 29th through the generosity of Mr. S. E. Parkes, chairman of the board of governors. Mr. Parkes has given the hospital £10,000.

LIFE ASSURANCE MEDICINE

THE INTERNATIONAL CONGRESS

REPRESENTATIVES from all over the world were attracted to the triennial Congress of Life Assurance Medicine held last week in London at the offices of the Prudential Assurance Company. Besides the medical meetings the programme, which extended from July 23rd to 27th, included a reception by the Minister of Health at Lancaster House, a banquet at the Dorchester Hotel, and a reception by Sir Edgar Horne, chairman of the Prudential Assurance Company.

Methods of Estimating Risks

The first of the medical meetings was given to a discussion on methods of estimating risks. Reviewing the main points to be considered in the general estimate of risks, Dr. JOSEF STURM (Munich) laid stress on the importance of the "moral standing" of the applicant, the relationship of his financial position to the sum proposed, and the possibility of any speculative element about the assurance. The assessment of substandard risks involves in the first place the medical estimate of the degree of impairment present, and for this purpose the experience gained from statistical work has been of great value in enabling insurance protection to be extended more and more to lives which have hitherto been uninsurable. Dr. Sturm proceeded to discuss the three methods most commonly used in the technique of extra rating:

(1) the imposition of an extra premium during the whole or only a part of the term of the policy;

(2) addition to the age of the proposer; and

(3) limitation of capital payments—this limitation continuing throughout the term of insurance or being wiped off during the earlier years of the policy. An example of this last form of limitation is the "one-fifth graduation policy" which implies that when death occurs in the first policy-year the company pays only one-fifth of the assured sum, in the second year two-fifths, and so on, with the result that after five years the whole sum becomes due in the event of death. This system has the advantage of not involving an extra premium.

Dr. CHESTER T. BROWN (Newark, N.J.), began by describing the fundamental work of Dr. O. H. Rogers and Mr. A. Hunter whose "numerical system" for estimating risks resulted about forty years ago in the statistical approach to life assurance problems gradually supplanting the clinical. The extent of the dependable information on which modern practice rests is illustrated by the fact that the Medical Impairment Study published experiences in 1931 concerning 2,100,000 lives, one-third of which were classed as substandard. Dr. Brown proceeded to describe in more detail the working of the numerical (or statistical) method; debit and credit marks are given to the proposer under a variety of headings, such as build, family history, occupation, and habits.

Prognosis of Hypertension

The second meeting opened with a communication from Dr. ETIENNE MAY and Dr. JEAN OLLIVIER (Paris), who pointed out that even moderate increases in blood pressure had long been held to involve a considerable increase in the risk to assurance companies; whereas private statistics gave an impression of much less gravity. The available statistics were open to two

criticisms. First, the majority of them are based on systolic pressures only, since until quite recent times few observers have paid attention to the diastolic pressure. Secondly, being mass statistics they combine in the same group all individuals with the same systolic pressure whatever the cause of the hypertension and whatever its clinical type. For accurate assessment separate statistics, graded according to the clinical type of hypertension, are essential. Three main types may be differentiated: (1) Systolo-diastolic or complete hypertension; (2) the hypertension of arterio-sclerosis with systolic predominance; and (3) hypertension with systolic predominance associated with neuro-vegetative instability. In complete hypertension the rise in systolic pressure is secondary to the rise in the diastolic, and there should be a fairly constant relation between the two. Extra risk is indicated by convergence (usually due to weakening of the heart) or by divergence (indicating arterio-sclerosis). As the rate of development of hypertension is important it is advisable to defer acceptance for several months so that this may be estimated in a second examination. In arterio-sclerotic cases, attention must be paid to the condition of the kidneys and myocardium and local forms of arteritis must be looked for. The hypertension of neuro-vegetative instability may exist by itself but is commonly associated with hyperthyroidism and tachycardial neurosis. It is found in young neurotic subjects and in women at the menopause. Even when occurring with a fairly high maximum it is essentially a variable and benign hypertension. The prognosis depends more on the associated neuro-vegetative instability than on the hypertension, and in practice a margin of 10 mm. may be allowed for the systolic and 5 mm. for the diastolic pressure without extra premium. A small extra premium is required for higher readings because of the unstable nature of the condition and the theoretical possibility of its developing into a complete hypertension. In the obese, when hypertension yields readily to diet, a moderate extra is sufficient; but when it cannot be reduced the strain on the heart is such that heavy loading is necessary.

Prof. WINTERNITZ (Trieste) also emphasised the importance of the classification of hypertension according to its cause. All applicants with hypertension of renal origin should be excluded and the selection subsequently checked by a study of the cause of death; a high frequency of uræmic deaths indicating faulty selection of material. He also called attention to the importance of examining the optic discs for evidence of albuminuric retinitis, and of the electrocardiogram, without which early lesions of the cardiac muscle cannot be detected. Although the diastolic pressure might be useful in prognosis, Prof. Winternitz had so far found its value uncertain because of the difficulty of obtaining exact readings.

In the discussion which followed, several speakers agreed in regarding uncomplicated and moderate hypertension as relatively benign. Dr. TOMASSON (Iceland) found the mortality in complete hypertension six to eight times as great as when the systolic pressure only is affected.

Acceptance of Diabetics

SIR WALTER LANGDON-BROWN, president of the Congress, opened the morning session on July 25th with a paper on The Acceptance of Glycosurics. There is no doubt of the increased prevalence of diabetes, he said, and the increase is of particular interest to assurance companies on account of its tendency to affect well-off people who insure their lives heavily. The effect of insulin has been to produce a fall in the death-rate in the young diabetic which is compensated by an increased mortality in the elderly. In life assurance work, when sugar is found in the urine, the onus of proving that the glycosuria is benign rather than diabetic rests on the proposer, and the necessary blood-sugar estimations, being in any case to his advantage, should be carried out at his expense. Sir Walter had hoped that blood-sugar curves would solve all diagnostic difficulties but, as Dr. Batty Shaw had recently pointed out, biochemists are now prepared to admit that anxiety, excitement, and diet may so far influence a curve as to make the diagnosis difficult. The small number of intermittent glycosurics who subsequently develop diabetes justifies their acceptance, but proved diabetics remain uninsurable, since their lives depend on their maintaining proper treatment, and even when controlled they are abnormally liable to sepsis, tuberculosis, and arterio-sclerosis.

A joint paper by Prof. HIJMANS VAN DEN BERGH and Prof. C. DE LANGEN was read by the latter. They pointed out that although life assurance companies were commercial institutions their fundamental principle was humanitarian, and in actual fact substandard proposers were more in need of insurance than the perfectly sound who were likely to exceed the average duration of life. They suggested that it may be advisable to accept, suitably loaded, proposers with uncomplicated diabetes provided that personal and social conditions are favourable. Renal glycosurics should be accepted at ordinary rates.

In the subsequent discussion, Dr. CHESTER BROWN described a rapid method of blood-sugar examination. Dr. BATTY SHAW called attention to the fact that assurance companies lost heavily from diabetes in candidates who had no glycosuria on acceptance, whereas the deaths from diabetes amongst those loaded for glycosuria were few.

Peptic Ulcer

In a paper on gastro-duodenal ulceration and life assurance, Prof. ROMANELLI (Rome) remarked that although the disease was increasing, we were still without statistics reliable enough for a proper assessment of its mortality. The diagnosis may easily be made difficult if the proposer conceals his symptoms, since definite objective signs are often absent. Radiological examination is not always easy to obtain, but Prof. Romanelli suggested that large towns should be equipped for this purpose. The prognosis depends on the general condition of the proposer and the time elapsed since his last symtoms; if pain is present the risk should be deferred; after six months it may be accepted with a heavy load. Better rates may be given after five years of good health, but a proposer with a history of gastro-duodenal ulceration should never be accepted at normal rates.

Dr. FAROY and Dr. CARRIÉ (Paris), in a joint communication, also lamented the incompleteness and misleading nature of statistics concerning gastro-duodenal ulceration. They believe the total death-rate in these cases to be about 23 per cent. although it seems to be considerably lower in cases treated medically for a long period (Moutier 5·17 per cent). Surgical treatment, in skilled hands, gives excellent results (48–65 per cent. cures), but late complications, such as the appearance of jejunal ulceration, are common. Being a serious and recurrent disease, gastro-duodenal ulceration always entails an increased risk and a short-term contract. It is to the advantage

of companies to require that such policy-holders should present themselves for periodic examinations, and for this purpose it is essential for them to possess clinical, radiological, and laboratory facilities.

Dr. ARTHUR WESTERMAN gave it as his opinion that after five years of good health a candidate could be accepted at normal rates. Dr. CHESTER BROWN considered the danger of relapse to be greater after surgical than after adequate medical treatment.

Periodic Examinations and Medical Care

Dr. S. B. SCHOLZ, Jnr. (Philadelphia), opening the session on health service and life assurance on the 26th, began by describing the beginnings and the growth of the system of periodic examinations of insured persons inaugurated by assurance companies. Following a suggestion made in 1861 by Dr. Horace Dobell of London, the movement began with the Provident Life Assurance Society of New York which established a health conservation bureau in 1909; this was followed in 1913 by the foundation of the Life Extension Institute which now carries out the health service of a large group of companies. At present more than a third of the American companies provide some form of free health service. Friendly societies in America provide not only health service and life assurance, but for many years have had a sanatorium for the treatment of those of their members who contract tuberculosis.

Dr. OTTO NEUSTÄTTER (Berlin) spoke of the spread of health service from the United States to more than twenty other countries in the last twenty-five years. Health service might be divided into two types: prophylactic, which included education campaigns by means of leaflets, lectures, and films; and therapeutic, which included visits by nurses and also financial assistance in cases of illness. He estimated, from figures obtained in America, Germany, and Japan, that periodic examinations would lead to prolongation of life in about twenty five per cent. of cases.

Other Problems of Assurance

The final afternoon session was occupied by a series of short communications.

Prof. BERGSTRAND (Stockholm) read a paper on the possibility of diminishing premiums by estimating risks. He began by saying that assurance companies were to be looked on less as a trade than as a social service. There was an admirable tendency in modern times to widen the portals of entry. Whereas in 1870 only 60 per cent. of proposers were accepted at ordinary rates this figure had risen to 95 per cent. in 1933; 3 per cent. showed an expected mortality up to seventy per cent. and were accepted at an increased premium, and only 2 per cent. were rejected.

Dr. L. WAGNER (Berlin) spoke of the advantages of an X ray examination in assurance work; many serious diseases, which provided no abnormal physical signs, could easily be detected by this means.

Dr. H. J. COERT (The Hague) gave the results of a statistical inquiry he had made regarding the mortality of insured diabetics. Considering patients with a small amount of sugar in the urine and no complications, he found those of average weight showed a mortality of only 94 (normal 80), whereas the overweight members of the same group had a mortality of 252.

Dr. AUGUSTO BUNGE (Buenos Aires) spoke on the joint organisation of medical examiners, which has proved a useful system in the Argentine Republic where vast thinly populated areas have to be dealt with. Fraudulent attempts are best met by coöperation between assurance companies and the appointment of a relatively small number of reliable examiners. The lengths to which criminal ingenuity can go was well illustrated by a case in which a man dying from tuberculosis was impersonated by a healthy person accepted as a first-class life. The imposter proceeded to stage a death from pneumonia, with the assistance of a doctor, who was also the assurance company's examiner.

In closing the congress the president spoke of the high place which assurance now occupied in scientific medicine. He thought the main problems for the future were concerned with the extension of the benefits of assurance still further to substandard lives. Among other drawbacks, total rejection had a bad psychological effect.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED JULY 20TH, 1935

Notifications.—The following cases of infectious disease were notified during the week: Small-pox, 0; scarlet fever, 1549; diphtheria, 956; enteric fever, 44; acute pneumonia (primary or influenzal), 472; puerperal fever, 36; puerperal pyrexia, 116; cerebro-spinal fever, 9; acute poliomyelitis, 7; acute polio-encephalitis, 1; encephalitis lethargica, 5; continued fever, 1 (Birmingham); dysentery, 19; ophthalmia neonatorum, 96. No case of cholera, plague or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council, on July 26th was 2576, which included: Scarlet fever, 729, diphtheria 965, ; measles, 43; whooping-cough, 399; puerperal fever, 20 mothers (plus 5 babies); encephalitis lethargica, 269; poliomyelitis, 2. At St. Margaret's Hospital there were 19 babies (plus 9 mothers) with ophthalmia neonatorum.

Deaths.—In 121 great towns, including London, there was no death from small-pox, 1 (0) enteric fever, 9 (0) from measles, 3 (0) from scarlet fever, 17 (1) from whooping-cough, 15 (4) from diphtheria, 45 (8) from diarrhœa and enteritis under two years, and 19 (2) from influenza. The figures in parentheses are those for London itself.

No general increase is reported in the deaths from diarrhœa and enteritis; Liverpool reported 9, Birmingham 4, no other large town more than 2. Of the fatal cases of measles 4 occurred at Liverpool. Of the 16 deaths from whooping cough outside London 4 occurred at West Ham, 2 each at Birkenhead, Leeds, and Liverpool.

The number of stillbirths notified during the week was 290 (corresponding to a rate of 42 per 1000 total births), including 44 in London.

GRANTHAM HOSPITAL.—The six private wards built as part of the extensions to this hospital are now complete. The charge is £5 5*s.* a week, and subscribers of £2 2*s.* a year, whose income exceeds £8 a week, are entitled to 15 per cent. reduction, and those whose income does not exceed £8, to a reduction of 25 per cent. Pay-beds are also available in the children's wards.

GIFTS TO HOSPITALS.—Mr. E. W. Meyerstein has given an additional 25 acres of land to secure the skyline of the future site at Banstead Wood, Surrey, of the Princess Elizabeth of York Hospital for Children. He has already given £10,000 to the institution. Mr. Meyerstein has also given £12,000 to the London Hospital to provide a swimming bath for the nurses. His further gifts to the Middlesex Hospital medical school were announced at the centenary celebrations reported elsewhere.

THE MEDICAL DIRECTORY

UNCOMMUNICATED ADDRESSES

THE Editor of the "Medical Directory," 40, Gloucester-place, Portman-square, London, W.1, desires to notify members of the medical profession that certain of their number, whose names appear below, have not communicated to him their present address. He asks that the persons in question, or their friends, will kindly give him the information at once, and in any case not later than Sept. 2nd. Otherwise the words (*address uncommunicated*) will appear in lieu of an address in the forthcoming 1936 issue. The date of registration is shown in parenthesis.

Absher, Chas. Omer (1930).
Adair, Thos. McCormac (1895).
Ahmad, Rasheed (1931).
Aikman, Cedric Wm. (1914).
Aiyengar, S. N. S. (1910).
Albertijn, Lindley (1918).
Albiston, Norman Arthur (1925).
Alexander, Andrew (1885).
Allan, Hamish (1932).
Allan, Wm. (October, 1926).
Allan, Wm. Smith (1905).
Allen, Vincent Ernest Nicol (1928).
Allen, Wm. Guy Embleton (1915).
Amarasinghe, Harmanis (1924).
Anderson, Abner Gallie (1916).
Anderson, Jas. Coburn (1915).
Anderson, Jas. McLaren (1928).
Anderson, Mary (1931).
Annett, Robt. Cecil (1929).
Ansari, Obaidullah M. T. (1933).
Appleyard, Herbt. Ernest (1933).
Archibald, Douglas (1925).
Arnold, Wm. (1885).
Asbury, Robt. Andrew Jacomb (1900).
Ashley, Tom John (1931).
Ashton, Fredk. Ieuan (1930).
Atkey, Oliver Francis Haynes (1903).
Atkinson, Thos. Reuell (1881).
Aubrey, Harold Percivall (1907).

Baillie, Wm. Herbt. (1923).
Baindur, Ramchandra Subrao (1930).
Baker, Helen (1932).
Ball, Godfrey Dacre Jennings (1927).
Ballantyne, John (1896).
Bannister, Marmaduke (1887).
Barkley, Jas. (1899).
Barnabas, Thos. Alfred (1929).
Barns, Wm. Norman Winston (1932).
Barr, Jas. (1928).
Barrett, Ernest (1886).
Barzilay, Abraham Hy. (1929).
Basham, Sydney (1923).
Bastible, Michael John (1925).
Basu, Amiya Kumar (1931).
Bates, Hy. Leslie (1880).
Battista, Rebizzi (1930).
Baxter, Geo. Savage Martin (1882).
Baxter, Jas. Sinclair (1929).
Beaugié, Donald McNicoll (1932).
Behari, Raghunand (1930).
Bell, Harry Chas. Rikard (1932).
Bell, Howard Alex. (1914).
Belletty, Dudley Rideout (1929).
Bennett, Fredk. Joseph (1879).
Bennion, Edgar Rhodes (1924).
Bensted, Lewin (1896).
Berg, Hendrik Jacobus van den (1927).
Bergouignan, Paul Theodore Gustave (1913).
Bernard, Robt. Spence (1892).
Bhatt, Prabhulal Devshanker (1932).
Bingham, Chas. Albert (1924).
Binnie, John Fairbairn (1886).
Bisset, Ian Gordon (1914).
Blair, Alex. (1903).
Blair, Hy. (1932).
Blewett, Chas. Hy. (1932).
Bolger, Patrick Thos. (1887).
Bond, Hopetoun Edwd. (1910).
Bonin, Adrien (1911).
Bonis, Robt. Jas. (1908).
Booth, Sydney (1894).
Bortz, Abraham (1926).
Bouché, Benjamin Jasper (1930).
Bourke, John (1927).
Boyd, John Ellison (1924).
Bradshaw, Desmond Burton (1932).
Brady, Patrick (1900).
Breen, Michael (1923).
Brown, Elizabeth Evelyn (1921).
Brown, Richd. (1891).
Brown, Wm. (June, 1933).
Brown, Wm. Aelred (1923).
Browne, Fredk. Guy Fountain (1912).
Bruce, Edna Winifred (1925).
Bruce, Hugh Gilbert (1912).
Bruce, Margaret Cruickshanks (1924).
Buchanan, Marion Elizabeth (1930).
Burke, Ulick Joseph (1897).
Burnett, Chas. (1924).
Burnett-White, Margaret Catherine (1924).
Burrows, Thos. Eggleston (1932).
Burwell, Fredk. Norris (1887).
Butterfield, Geo. Richd. (1933).

Cambridge, Wm. Russell (1933).
Cameron, John Austen Percival (1929).
Cameron, Patrick Stephen Gerrard (1918).
Campbell, Angus (1893).
Campbell, Gertrude Jane (1900).
Campbell, John (1922).
Campbell, John (1928).
Carr, Meyer (1934).
Carrington, Geo. Hedwig (1884).
Cassidy, David Mackay (1868).
Chadsey, Louis Colvin (1929).
Chambers, Wm. Huntley (1934).
Chandrasekharan, Trichinopoly (1932).
Cherry, John Douglas (1913).
Cheune, Nai (1913).
Chilton, Chas. (1899).
Chisholm, Alex. Fraser (1925).
Chopin, Leopold (1922).
Clark, Wm. Adam (1929).
Clarke, David Dickie (1926).
Clarke, Roy (1934).
Clements, John Hall (1902).
Coghlan, John Joseph (1920).
Collier, Samuel Ruddell (1887).
Colombowala, Munchersha Rustomjee (1903).
Condon, Richd. A. (1921).
Conlin, Arthur Joseph (1926).
Conlon, Peter (1922).
Connolly, Peter John (1922).
Constad, Victor (1932).
Constant, Chas. Fredk. (1912).
Consul, Shiamnath (1931).
Cook, Duncan (1917).
Coomber, Arthur Beauchamp (1907).
Cooper, Edwd. Harold (1896).
Corcoran, Jeremiah Joseph (1927).
Corke, Cecil Aloysius (1878).
Corr, Jas. Fairweather (1930).
Court, Edwd. Percy (1899).
Couston, Alastair Gordon (1927).
Coventry, Gladys Anna (1928).
Cowe, Kate Mollineaux (1913).
Craig, John (1895).
Crawford, Chas. Sinclair (1932).
Crossley, Harold Tattersall (1926).
Crowe, Chas. Leask Crawford (1924).
Crowley, Daniel Finbarr (1922).
Crowley, Patrick John (1929).
Csengeri, Giorgio (1934).
Culligan, Edwd. Augustus (1895).
Cussen, Gerald Eugene (1920).
Cutler, Lennard (1889).

Dakin, Thos. Burns (1897).
D'Anna, Antonino (1929).
Das, Upendra Nath (1921).
Davies, Helen Isabel (1923).
Davin, Alfred Lucian Vincent (1916).
Davis, Gerald (1926).
Davis, Randolph (1924).
Deane, Arthur Maslen (1904).
Deaner, Sidney (1927).
Dearberg, John Louis (1926).
Deboo, Sorabji Navroji (1920).
Dickson, Jas. Alan (1930).
Dimond, John Lyn (1900).
Direkze, Herbt. Augustus (1926).
Dobbie, Edith Dennistoun (1919).
Dodhi, Miss Avabai Jehangirji (1920).
Donadelli, Salvatore (1931).
Dorion, Walter Alphonso (1904).
Driberg, Jas. Douglas (1913).
Duckworth, Herbt. Cecil (1922).
Duff, Alex. Dewar (1928).
Duff, Thos. Francis Aiden (1933).
Duguid, Wm. (1914).
Duke, Francis Vincent (1925).
Dunlop, Eric Fergus John (1929).
Dunlop, Robt. Hunter (1924).
Dunn, Spencer Smithson (1888).
Dunning, John Beatson (1908).
Dyson, Percy Albert Stanley (1909).

Eagles, Victor Thos. Wm. (1912).
Eason, Grace Winifred Wilson (1923).
Eccles, John Yarrow (1925).
Edison, Milton Gray (1933).
Eggo, Mrs. Vivienne Maud (1927).
Elder, Douglas (1905).
Eloff, Johan Sarel (1917).
Elphick, Sidney Ernest (1915).
Elworthy, Hy. Herbert (1904).

Feldman, Harold Moses (1929).
Fenning, John Reginald Keith (1917).
Fenton, Clyde Cornwall (1929).
Ferguson, Malcolm (1892).
Findlay, Wm. David (1895).
Fitzgerald, Alfreda Herworth (1927).
Flower, Richd. Glyde (1926).
Flynn, Joseph Edwd. (1927).
Fogarty, Bridget Mary (1919).
Fogarty, Wm. Philip (1919).
Forgrave, Wm. David (1923).
Forrest, John Geo. Stracey (1877).
Foster, John Wilford (1926).
Foston, Edmund Christopher (1889).
Fowler, Gordon (1893).
Fox, Patrick Joseph (1935).
Franklin, Arthur (1929).
Freeman, Joseph (1899).
Frere, Arthur Hanbury (1889).
Frost, Robt. Oakley (1921).
Frumin, Julius Benjamin (1933).
Fuller, Ralph Christopher (1911).
Fullerton, John Alex. (1925).
Fyffe, Andrew Alex. (1912).

Gaddum, Iris Mary (1924).
Gainsborough, Richd. (1918).
Galler, Herman Frederic (1934).
Galwankar, Gangadhar Dinkar (1933).
Games, John Hy. Paisley (1928).
Gamlen, Harold Ernest (1925).
Garber, Maurice Joseph (1931).
Gardiner, David Gould (1915).
Gaston, David (1914).
Gellatly, Norman Croll (1926).
Ghaleb, Sayed (1925).
Ghosh, Dwijendra Nath (1930).
Gibb, Geo. Alex. (1894).
Gibbs, Eric Worton (1932).
Giblin, Hubert Thos. (1932).
Gibson, Chas. Christopher (1921).
Gill, Cecil Ernest Gaspar (1924).
Gilmour, John Gray (1920).
Glas, Vladimir (1931).
Goggin, Mary (1925).
Goldberg, Isaac (1924).
Goodman, Philip (1925).
Gool, Goolam Hoosen (1931).
Gori, Rosario (1932).
Gourlay, Jas. Dickson (1901).
Gover, John Maxwell (1898).
Graham, Kenneth Jas. Menteith (1928).
Grant, Willoughby Gordon (1911).
Gray, David (1904).
Gray, Harwell Bannerman (1927).
Greene, Samuel S. (1921).
Groenewald, Adriaan Jacobus (1929).
Guest, Frederick (1920).
Gugino, Vincenzo (1933).

Hacker, Emeric E. (1929).
Hall, Jas. Christian (1920).
Halloran, Kathleen May (1926).
Hamilton, Dennis Godfrey (1928).
Hamilton, Hermann Lauder (1902).
Hamilton, Jas. Oliver (1908).
Hankin, Stanley (1932).
Hardaker, Fredk. Geo. Brunton (1927).
Harris, Clayton Campbell (1886).
Harris, Cyril Robt. (1928).
Harris, David Benjamin Luke (1929).
Harrison, Tillson Lever (1923).
Hart, Jas. Archibald (1922).
Hart, Wm. Hume (1910).
Hartshorne, Bernard Frederic (1884).
Hay, Walter (1887).
Hayward, Lilian Ann (1926).
Heiser, Arthur Lewis (1904).
Henderson, Blanche Aspasie Marion (1918).
Hennell, Leo (1928).
Henry, Geo. Arnold (1933).
Henstock, John Lea (1890).
Hepburn, Aglionby David (1921).
Heron, Wm. (1927).
Hershfield, Harry (1923).
Hetherington, Harry Brown (1926).
Hewett, Samuel Ross De Lap (1917).
Heywood, Thos. (1892).
Higgins, Hubert (1888).
Hill, Isobel Russell (1922).
Hind, Florence Winifred (1914).
Hittleman, David (1933).
Hoffman, Julie Elise (1913).

Hogan, Mary G. (1932)
Holmes, Bernard Willoughby (1896).
Holmes, Joseph (1882).
Home, Fredk. C. H. (1901).
Hopkins, Alex. Wm. (1931).
Horgan, David St. Helier (1909).
Hosny, Mostafa Hassan (1934).
House, Denis Roy (1928).
Howard, Henry (1880).
Hudson, Thos. Albert Gibbs (1920).
Hughes, Mitchell Geo. Herbt. (1932).
Hunt, David Mackenzie (1916).
Hutchinson, Wm. John (1923).
Hutchison, John (1933).

Iles, Mary M. G. (1900).
Irger, Jacob (1932).
Irwin, Mary Ellen (1918).
Iyengar, Mandayan A. P. (1919).

Jack, Alex. Fraser (1900).
Jaensch, Fredk. Joseph Victor (1931).
Jain, Banarsi Das (1927).
Jenner-Clarke, Reginald (1919).
John, Thayil Cheriyan (1932).
Johnston, Hugh Clyde Armstrong (1933).
Jones, David Wm. (1914).
Jones, Evan John (1926).
Jones, Margaret Gray (1921).
Jubb, Archie Vivian (1905).

Karunaratne, Wm. Arthur Edwd. (1918).
Kaul, Sarvashwar Nath (1926).
Keith, Hugh A. (1893).
Kendall, John Wilson (1926).
Kennedy, Francis Patrick (1913).
Kennedy, Fredk. Wm. (1891).
Kesselson, Hyman (1927).
Keyt, Frederic Theobald (1889).
Khan, Abdur Rahman (1934).
Kilroe, Sidney Herbt. Jas. (1908).
King, Gerald Geo. (1928).
King, Jas. Malcolm (1903).
Kirkland, Gerald Baeyertz (1923).
Kirkpatrick, Eileen Monica (1932).
Kirkpatrick, Gordon Mackay (1931).
Krom, Lasar (1934).

Latham, Hy. (1893).
Lawrence, Hy. Gwynne (1896).
Lawrence, Wm. Jamieson (1926).
Leadbetter, Jas. Louden (1896).
Leader, Louis Anthony (1931).
Lee, Alfred Wm. Harris (1882).
Leland, Alfred B. (1898).
Leslie, Wm. (1915).
Levy, Hirsch (1925).
Lewellyn, John Woodruff (1902).
Lewis, John Griffith (1915).
Lewis, Wm. Edward Vaughan (1901).
Liddy, Jas. Christopher Anthony (1929).
Lindsay, Douglas Marshall (1919).
Lindsay, Hugh John Roy (1924).
Lines, Leonora Marie Katherine (1926).
Little, Paul MacDonald (1915).
L'Oddo, Giovanni (1926).
Long, Joseph John (1891).
Long, Kathleen Nicol (1920).
Louwrens, Jas. Johnson (1907).
Lurji, Balbina (1935).
Lyons, Alex. (1901).

MacArthur, Angus Alex. (1928).
MacArthur, Ian Edwd. (1925).
McArthur, Peter Alex. (1924).
McCartan, Patrick (1910).
McCarthy, Cornelius Joseph (1927).
McCarthy, Patrick Bernard (1929).
McClymont, Albert Geo. (1933).
McCormick, Jas. Patton (1922).
Macdonald, Jane Watson (1921).
McDowell, Ernest John Paul (1925).
McEwan, Mary (1923).
McFadden, Mary Taggart (1928).
Macfarlane, Jas. (1921).
McFarlane, Wm. Veitch (1932).
MacGregor, John (1930).
MacIntyre, Edwd. Tambyah (1913).
Mackay, Geo. Munro (1909).
Mackay, Mavis Eveline (1927).
Mackellar, Duncan Gordon (1933).
MacKelvie, Archibald Alastair (1925).
McKenzie, Alan (1920).
MacKenzie, Donald (1928).
MacLaughlin, Thos. (1875).
MacLeod, Sarah Black (1924).
McLoughlin, Douglas Drummond O. (1924).
MacMahon, Edwd. Gerard (1929).
Macphail, Katharine Stewart (1911).
Macpherson, James (1921).
McPherson, Robt. Jas. (1924).
MacQuarrie, Alastair Wm. (1927).
McVittie, John Coulthard (1924).
Marshall, Chas. McIntosh (1926).
Martin, Hy. Oram (1926).
Martin, Jas. Alex. (1899).
Martin, John (1914).
Martin, Louis Chas. (1900).

Marx, Ernst (1934).
Matthews, Hugh Rutherford (1923).
Maurer, Hy. Wm. (1930).
Mazzarella, Gerardo (1930).
Meiring, Sylvester Hy. (1918).
Merry, Jean McMurray (1917).
Meyer, Else Fransiska (1934).
Meyler, John Francis Cooper (1899).
Michelson, Everett Gladstone (1921).
Mikhail, Hakin Murcos (1928).
Mills, Ernest Anthony K. M. (1922).
Mills, John Patrick Tynan (1926).
Mirchandani, Anandram Harumal (1925).
Mistri, Shavax Nasarvanji (1929).
Mitchell, Jas. (1922).
Mitchell, John (1909).
Mohd Aslam (1931).
Moon, Edwd. Gibson (1896).
Mooney, Gerald Wm. (1912).
Mortimer, Hector (1914).
Moynihan, Wm. (1922).
Mudie, Elizabeth Caroline (1925).
Muirhead, Edith Andria (1932).
Muller, Fritz (1934).
Mullins, Wm. Leo (1923).
Murray, Arthur Hill (1881).

Nasmyth, Roy Douglas (1920).
Natali, Claudio (1933).
Nesbitt, Jas. Anderson (1932).
Neylon, Joseph Anthony (1922).
Niaz-ud-Din (1933).
Nichol, Robt. (1892).
Nolan, Jas. Noel Greene (1912).
Nolan, Margaret Mary (1925).
Noll, Sam (1924).
Norrie, Mrs. Cecil Robertson (1909).
Northcott, John Ford (1899).
Nye, Cyril Walter (1929).

O'Brien, Helen (1921).
O'Brien, John Robt. (1898).
O'Byrne, Niall Conor (1932).
O'Connell, Wm. Finbarr (1932).
O'Connor, Nora (1926).
Oddy, John Reginald (1925).
O'Donoghue, Jas. Bennett (1911).
O'Donoghue, Thos. Francis (1915).
O'Donovan, Louis Jerome (1912).
O'Driscoll, McCarthy (1921).
O'Keeffe, Daniel Joseph (1889).
O'Kelly, Patrick (1925).
Ollerhead, Hy. Sandford (1907).
O'Mahony, Joseph Patrick (1926).
Orok, Robt. Dick (1908).
Osborn, Adam Downey (1932).
Ossip, Julius (1932).
O'Sullivan, Daniel Joseph (1918).
O'Sullivan, Peter Finbarr (1922).
Owen, Jas. Raymond (1934).
Owens, Robt. David (1925).

Parbury, Frederic Denis (1902).
Park, Max (1930).
Pearse, Edwd. Mountjoy (1899).
Pearson, Harry Linden (1909).
Philip, Athanas (1920).
Pilley, Evelyn Violet (1922).
Platt, Frank Bertram (1929).
Pollock, Geo. (1932).
Poole, Wm. Joseph (1930).
Port, Arthur Wm. (1893).
Portway, Robt. Louis (1916).
Procter, John Adamson (1893).
Purce, Thos. (1927).

Rajaratnam, Kathirithanby (1930).
Ramsay, Mary Frances (1923).
Randall, Constance Amy (1918).
Rankin, Fredk. Powlett (1914).
Rasanayagam, Suppiah (1929).
Rawson, Doris (1921).
Razdan, Jagmohan Lal (1931).
Reeves, Thos. Conrad (1911).
Reid, Alex. Wm. (1894).
Reid, John Mark (1902).
Reid, Wm. Ewen (1905).
Rekhi, Miss Raseela (1931).
René de Cotret, Gaston T. A. (1920).
Renner, Edowo Awunor (1919).
Reynolds, Leonard Grugeon (1897).
Rice, Chas. Emmanuel (1918).
Richardson, Wm. (1877).
Rifkill, Frank Louis (1923).
Ritchie, Alex. Brown (1889).
Roberts, Adeline Mary (1898).
Roberts, Fredk. Ewart (1925).
Robertson, David Bell (1916).
Robertson, Edwd. Alex. (1928).
Robinson, Amy (1903).
Robinson, John Bainbridge (1928).
Robinson, Thos. Hy. (1885).
Roche, Wm. John (1927).
Rodolph, Geo. Hy. (1907).
Rose, Stuart Mason (1920).
Rosenberg, Wilfred (1927).
Ross, Gordon Winiford (1917).
Rozario, Geo. Stanislaus (1931).
Runciman, Helen (1904).
Rustogi, Hari Krishna B. (1934).

St. John, Alfred Hy. Valentine (1908).
St. Pierre, Damien (1925).
Salmond, Paul Hammersley (1920).
Samarasinghe, Wilmot (1927).
Samuel, Ian Norman (1931).
Santi, Philip Robt. Wm. de (1884).
Santoro, Soccorso (1930).
Saraidarian, Onnik (1928).
Sargent, Wm. Victor (1919).
Saunders, Alison Jean (1923).
Schenck, Edwd. L. E. (1907).
Schneider, Robt. (1935).
Schwartz, Felix (1934).
Scoresby-Jackson, Thos. (1905).
Scott, Geo. Orville (1919).
Scully, Annie (1921).
Scurlock, Stephen John (1924).
Scutt, Tom Homer (1884).
Sharman, Sydney (1927).
Shelly, Chas. Edwd. (1879).
Sheorey, Narayan Lakshman (1915).
Shepherd, Thos. Scott (1900).
Sheridan, Edna Frances (1930).
Sheridan, John Joseph (1921).
Sherry, J. J. Aloysius (1898).
Sidarous, Helana (1930).
Siddiqui, Mohomed Zillur Rahman (1935).
Simon, Keith Myric Benoit (1915).
Simon, Simon Lionel (1923).
Singh, Balwant (1928).
Singha, Miss Abhayabala (1909).
Skeet, Jack Garland (1913).
Smart, Archibald Guelph H. (1906).
Smith, Dorothy Barnard (1932).
Smith, Elizabeth Calderwood (1923).
Smith, Fred (1927).
Smith, Irwin (1932).
Smith, Joseph Neelands (1933).
Smith, Thos. Malcolm (1932).
Smuts, Cornelius Reitz (1923).
Smythe, John Francis (1900).
Solomon, Nathan (1930).
Souter, Jas. (1902).
Southern, Francis Gerald (1885).
Speedy, Isabella Hogg (1923).
Stanford, Wm. Gilbert (1933).
Stanley-Clarke, Crispian (1906).
Stephenson, Kathleen Evelyn V. (1926).
Stirling, Leader (1929).
Stoney, Robt. Thos. (1917).
Story, Bernard Samuel (1897).
Strang, Thos. Francis (1925).
Stringer, Marie Payne (1933).
Struthers, Robt. Rolf (1920).
Stuart, Annie Robertson (1924).
Studley, Thos. Chas. (1924).
Suri, Harish Chandar (1922).
Sutherland, Jane (1930).
Svensson, Robt. (1908).
Sweeney, Joseph Francis (1924)
Syson, Frederic (1925).
Sze Pon Chan (1907).

Talbot, Harry (1927).
Talent, John Wm. (1886).
Tancock, Ida Montrose (1923).
Tannahill, Wm. Bow (1905).
Tate, Arthur Littlewood (1876).
Tattersall, Kenneth Rupert (1934).
Taylor, Chas. Johnston S. O. (1929).
Thomson, Ian Cowan (1923).
Tinsdale, Geo. Fredk. Wm. (1925).
Tippett, Sydney Gordon (1894).
Tirodkar, Raghunath S. (1920).
Todd, Hy. Bansall (1887).
Tolputt, Percy Thos. (1892).
Torrance, Thos. Stirling (1923).
Townsend, Cecilia Columba (1923).
Treston, John Francis (1899).
Trotter, Dorothy Isabel (1924).
Trotter, Geo. Jas. Elliot (1886).
Tweedie, David Reid (1927).

Varadarajan, Pudukotah S. (1930).
Varley, John Francis (1928).
Verver, Bernard Thos. (1911).
Vickers, Hugh Anthony (1932).
Viljoen, Jacobus (1925).
Vincent, Samuel Anderson (1933).

Wadsworth, Guthrie Morgan (1923).
Wagle, Purushottam M. (1927).
Walker, Alfred (1896).
Walker, Thos. Warburton (1904).
Wall, Jas. Bligh (1897).
Waller, Jocelyn Langton (1914).
Walmsley, S. M. Felicia (1931).
Walsh, John Thos. (1885).
Walsh, Theodore Edwin (1925).
Walsh, Una (1921).
Walt, Maurice Lionel (1933).
Walters, St. David Gynlais (1881).
Wark, Kathleen Jane (1932).
Warrington, Wm. Oswald (1925).
Waterhouse, Arthur Reginald (1928).

Watson, Dorothy Minto (1924).
Watson, Hugh Ferguson (1907).
Watson, Ivy Rosamund (1929).
Watts, Claude Ernest (1909).
Webner, Ralph Adolph (1925).
Wedgwood, Wm. Brackenbury (1887).
Weir, Edmund Geo. Harrison (1903).
Welchman, Edwd. (1872).
Were, Mary Josephine (1913).
West, Griffith Jas. Schümm (1929).
Whitelaw, Wm. (1912).
Whitman, Vivian Emlyn (1924).
Wilkinson, Edgar Sheldon (1899).
Willett, Geo. Gilmore Drake (1881).
Williams, Wilfrid Bernard (1929).
Williamson, Norman Reginald (1907).
Wilson, Albert Arthur (1930).
Wilson, Dagmar Florence C. (1914).
Wilson, Geo. Edwd. (1924).
Wilson, Neville Pickernell (1933).
Wiseham, Beryl (1921).
Wisewould, Percy (1887).
Wolff, Gerhart (1934).
Woodfield, Thos. Harold (1893).
Worts, Stanley Edwin (1893).
Wright, Malcolm Maitland (1927).
Wright, Reginald Leslie (1919).
Young, Douglas Jerrold (1929).
Young, Jas. (1909).
Yousef, Mohamed Ahmed (1929).
Yule, Frances Marjorie (1921).
Yusif, Nashid Tadros (1925).
Zagni, Luigi (1934).

PANEL AND CONTRACT PRACTICE

Baths

The insurance committee for a county borough on the outskirts of London has decided to make representations to the town council, urging that in connexion with the extension and development of a civic centre for the borough provision should be made for the establishment of remedial, medical and Turkish baths. The committee were of the opinion that such facilities would prove a valuable addition to, and should be made available as part of, the existing local health services. The committee had previously approached the town council as to the desirability of making provision locally for the physical treatment of those suffering from rheumatic diseases, and the proposed development of the civic centre afforded an opportunity of considering the provision of such special baths. The local panel committee are being asked to give the matter their consideration and support.

Checks on Extravagant Prescribing

Remarks by a non-medical member of the London insurance committee upon the vexed question of prescribing have received widespread notice. This member alleged that insurance doctors are becoming intimidated and annoyed because in certain cases the Minister of Health sends regional medical officers to investigate their prescribing. The facts reported to the committee are that each year about 290 doctors whose prescribing averages are markedly above normal are selected and information as to special features of their prescribing, with other details, is submitted to the Minister. From these the Minister selects about one half, whose prescribing appears most likely to warrant investigation, and obtains detailed information from the committee. In about one-third of these cases the details given are sufficient to remove any presumption of extravagance. In the remainder (say about 100 cases), there has been prima-facie evidence that in some direction the cost of the practitioner's prescribing was in excess of what was reasonable, having regard to what on average was found adequate by other doctors in the county, and it has been considered desirable to seek an explanation. In such cases a visit is paid to the doctor by a member of the regional medical staff with a view to discussing those features of his prescribing which suggest that economy could be secured without sacrifice of efficiency. It is only in cases where, in the Minister's opinion, the evidence discloses reckless and serious extravagance that the case is finally referred to the panel committee. That committee, consisting as it does entirely of doctors, and almost entirely of insurance doctors, can presumably be trusted to ensure that nothing is done which would hinder or prevent a doctor from prescribing all drugs, however costly, which are reasonably necessary for the adequate treatment of his patients. But there are sometimes prescriptions which at first sight need explanation, for instance, "two ounces of Croton Oil. One drop to be taken on sugar when required." That would have sufficed an army corps.

Representations under Article 41

ARTICLE 41 of the Medical Benefit Regulations covers the procedure of the Ministry in cases where it is proposed to withhold from an insurance committee such amount as the Minister thinks fit from the money payable for the purposes of medical benefit with a view to the recovery by the committee from the practitioner or chemist concerned of a like amount by deduction from his remuneration or otherwise. Before deciding to withhold any such amount, unless the facts have already been the subject of an investigation in the course of an appeal made to the Minister, the latter must afford the practitioner or chemist a reasonable opportunity of making representations, either written or oral, on the matter; and where oral representations are made the Minister may appoint persons to hear the case and to report to him thereon. The insurance committee and the panel or pharmaceutical committee, as the case may be, are entitled to be represented at, and to take such part as the tribunal may think fit in, the hearing. An advisory committee assists the Minister in the discharge of his duties under the section. It will be observed that not only the insurance committee but the panel or pharmaceutical committee has certain rights in the case of oral representations, but the position is less clear when the doctor or chemist submits written representations in the matter.

The Cheshire insurance committee recently recommended that one pound should be withheld from a chemist, and the Minister adopted the recommendation. But in the letter conveying his decision to the chemist, a copy of which was sent by the Department to the committee, the Minister referred to certain representations made in writing by the chemist, whereupon the committee requested and obtained a copy of these representations. The committee took the view that had they been aware of certain contentions of the chemist these could have been refuted, and decided that the Minister should be requested, before making final decisions, to send a copy of any such representations to the insurance committee. The reply of the department was that the Minister regretted that in view of the intention of Article 41 of the Medical Benefit Consolidated Regulations, 1928, he could not give any general undertaking to consult the committee before coming to a decision on any case, but must exercise his judgment as to the cases in which such consultation would be proper and expedient.

Notifications of Service Subcommittee's Decisions

A provincial insurance committee has decided in future to convey the findings and recommendations in medical, pharmaceutical, and joint services subcommittee cases to the parties concerned as early as possible after the meeting of the subcommittee by which such cases are investigated, but the parties are to be advised that the recommendation is subject to adoption by the insurance committee and to possible revision by the Ministry of Health. Article 33 (4) of

the Regulations provides that the relevant sub-committee shall draw up a report on each case and shall present it to the insurance committee, together with a recommendation. Usually the parties to such cases are not informed of the result until the insurance committee has come to a decision.

Dispensing Hours in London

THE London local medical and panel committee have been concerned at the alleged lack of adequate arrangements for the dispensing of prescriptions after 8 p.m. and have now come to an arrangement with the secretary of the pharmaceutical committee that when a doctor complains of a lack of adequate dispensing arrangements after that hour, the doctor shall be supplied with a list of chemists in his district where it should be possible to secure the dispensing of prescriptions after the normal hours.

PUBLIC HEALTH

Nursing in L.C.C. Hospitals

THE QUESTION OF HOURS

IMPORTANT recommendations were submitted by the hospitals and medical services committee to the L.C.C. on Tuesday, and accepted, in respect of the staffing at 12 acute general hospitals, all approved by the General Nursing Council as complete training schools for nurses. The committee recall reports of the central public health committee to the Council in July 1930 and July 1931, as to the remuneration and conditions of service of female and male nursing staffs, referring to the diversity of conditions generally, including hours of duty, at the transferred hospitals and stating that it was intended to work to a 54 hours (net) week as soon as practicable both for day and night work. On Oct. 25th, 1932, the committee reported the steps taken to reduce hours of work in excess of 56 (day), 60 or 66 (night) to those hours and to bring up to 54 a week (day or night), the hours at hospitals and institutions at which fewer were worked. It is now proposed that a 54-hour week (inclusive, in the case of probationer nurses, of two hours for lectures) should be applied in these 12 hospitals for both day and night work. The working conditions for all the twelve hospitals now dealt with are to be standardised on the following basis :—

Day staff,—Span of duty, 7.15 A.M.–8.30 P.M. (probationer nurses). 7.15 A.M.–9 P.M. (staff nurses). 7.45 A.M.–9 P.M. (sisters). Time allowance for meals, 1¾ hours (excluding supper) for probationer nurses ; 2¼ hours (including supper) for staff nurses and sister. Daily "off duty" time, 2½ hours for probationers and staff nurses, 2 hours for sisters. Day off, weekly, 1 day. Wards open to medical staff 10 A.M. Wards closed at night, 8 P.M.

Night Staff.—Span of duty, 8.45 P.M.–8.30 A.M. Relief for night meals, 1 hour. Nights off a fortnight, 4.

The numbers of staff proposed are based on the adoption of these standardised conditions. On the assumption that the ward beds will be occupied by patients of acute, semi-acute, and chronic types in normal proportions, a ward unit which provides (1) day nursing staff in the proportion of approximately one unit of staff to six patients, and (2) combined day and night nursing staff in the proportion of approximately one unit of staff to four patients (both ratios being calculated on a 90 per cent. occupation of beds, and including only staff classified as nursing staff) are considered desirable. In children's wards the combined day and night ratio should be approximately 1 to 3·5. Hospitals with a number of small wards will require more generous staffing than those with large wards. Trained nurses will always be on duty in children's wards.

Special provisions concern relief staff for "days off" and "nights off," emergency staff, and sickness and holiday relief. The numbers of staff submitted include provision for four-week courses of preliminary training at the general hospital training schools.

We welcome the reduction of hours and the precision with which the span of duty, night and day, and the times off are defined. These go some way towards fulfilling Recommendations VII to XVI of THE LANCET Commission on Nursing. The provision of 1¾ hours for meals (excluding supper) implies, we may hope, that for the midday meal more than the usual half hour is to be allowed. We note with satisfaction that the daily off-time duty, though 2½ hours instead of the three hours recommended by the THE LANCET Commission, is allocated independently of the time allowed for meals. The relief of one hour for meals during a night span of duty which is 11¾ hours is hardly liberal, but on the other hand some hospitals provide no such relief and the reduction of the night duty to 54 hours in a week brings this duty down to a level lower than that worked in most hospitals.

"WOMEN ORDERLIES"

Another proposal, to employ women orderlies in these hospitals is being received with critical attention in certain quarters. The duties of these orderlies would consist chiefly of the cleaning work at present carried out by probationer nurses during their first year of training, in the proportion of one woman orderly in each ward unit with a sister in charge. The duties would generally include :

(1) Dusting, cleaning and polishing of wards, ward equipment and fittings, making up ward fires, and filling of hot-water bottles ;

(2) Cleaning sanitary annexes, and their equipment, sorting soiled linen, scrubbing bed mackintoshes ;

(3) Assisting in preparation of meals, e.g., taking round cups and plates, bread and butter trolley, tea, dinners, &c. ; clearing away crockery, cutlery utensil, &c., after patients' meals ;

(4) In chronic and convalescent hospitals and blocks, assisting with "chronic" or "convalescent" persons requiring help on account of age (e.g., elderly people and children) in feeding, washing, blanket bathing, and taking to the bath ; also assisting in the making of beds and the combing of heads ; and

(5) Assisting the senior nursing staff if required in the blanket bathing, dressing, moving, or making of the bed of a patient when the work involves the services of two persons simultaneously. Except in circumstances as indicated in (5) women orderlies will not attend ordinarily to any patient who are ill, such patients being attended to solely by members of the nursing staff.

It seems to us that it may be unwise to allow any loophole such as would be implied by the word "ordinarily" in section 5 of the duties set out above, and that in any circumstances such duties as blanket-bathing, moving, or bed-making for the patient should be confined entirely to the nursing staff in approved training schools. The cleaning of equipment in sanitary annexes (e.g., bed pans) should also in our view be among the duties of the nursing staff which should not be delegated. Even if the probationer has ample material on which to practise nursing procedures, there is a psychological

disadvantage in allowing her, at an impressionable period of her training, to regard personal service to the patient as anything but work strictly within the purview of a nurse.

Nutrition Centres in London

The report of the L.C.C. school medical officer just issued [1] contains further information about the experimental nutrition centres of which five have been started in London. At first one session a week will be held at each, the children being selected by the divisional medical officer from nominations by school doctors. The primary cases to be included are those at present under observation for nutritional defect who at the periodical inspection and weighing at school have not shown improvement. Hitherto certain children found to be undernourished have been sent to voluntary general hospitals by school care committees. They were found at the hospitals (it is stated) to have no disease and were sent away with nothing done, the suggestion being made that the school service referred to hospital very trivial conditions "which wasted the time of the hospital physicians." On the other hand, the feeling is growing among the public that local educational authorities should be doing more for the ill-nourished child, especially in the very earliest stages of malnutrition. During the experimental period the selected children are to be immediately under the observation of the L.C.C. divisional medical officer, and accordingly the centres have been located as near as possible to the divisional offices where the children will be seen by a part-time assistant medical officer with special experience in pædiatrics. To each centre will be allotted an experienced nurse and an organiser with knowledge of social economics who will investigate the family budgets and dietaries and advise the parents. This organiser will keep in touch with the school care committee; he will visit the children both at home and school, and report on conditions there. In any case where a period of observation in hospital is desired this will be arranged at one or other of the L.C.C. special hospitals for children—e.g., Queen Mary's, Carshalton, or High Wood, Brentwood.

[1] London County Council: Annual Report of the Council. 1934. Vol. III. Part II. Public Health. London: P. S. King and Son. No. 3125. 1s. 6d.

CORRESPONDENCE

GOLD TREATMENT OF RHEUMATOID ARTHRITIS

To the Editor of THE LANCET

SIR,—At the present time much investigation is being carried out to assess the value of chrysotherapy in the treatment of arthritic conditions. That we have at last in our hands a remedy as valuable as the heavy metals in the treatment of syphilis, I have no doubt whatever. That hopeless lack of enthusiasm with which one approached the rheumatoid arthritic, aware of the impotence of all one's drugs and the majority of the other therapeutic ritual, has given place to a justifiable optimism. I know that excellent results are obtained without drugs in the hospital specially equipped for physiotherapy, with facilities for prolonged and intensive treatment, but in a general hospital I think most clinicians will agree that massage, radiant heat, baths, &c., is at best a palliative, and frequently only a placebo. Three years' experience of gold treatment in a general hospital has converted my initial strong scepticism into an ardent belief in its value.

I was stimulated to write this letter by that of Drs. Slot and Deville in THE LANCET of July 20th. I, too, have discarded the intravenous route for the gold salt in preference for the intramuscular. From the standpoint of toxicity, I do not think there is as yet anything to choose between the different preparations. To ensure safety, dosage must be small. The incidence of idiosyncrasy is unfortunately rather high, much higher than in the case, for example, of arsenic. In my own experience the genuine case of idiosyncrasy is encountered about once in thirty cases; after the initial small doses one of the toxic manifestations, usually the dermatitis, will appear, often of alarming severity. Another common time for the dermatitis to appear is after about 1 g. of the salt has been given, especially when it has not been spread over a longer period than a month. To avoid this latter difficulty, I now space the dosage over a much longer period than a month, and am always guided in the timing and size of the injections by the general condition and well-being, or otherwise, of the patient. If possible, I always see the patient personally before each injection. It is thus impossible to lay down hard and fast rules with regard to dosage, but my own usual procedure is to give 0·01, 0·05, 0·1 g. at weekly intervals, allow 2 weeks to elapse, and then give, in cases without any reaction other than increase in local joint symptoms, 0·2 g. at fortnightly intervals for four doses. I then repeat the course in six weeks' time.

I, too, have noted relief of pain in the osteoarthritic patient, though I have not as yet treated many. I first used gold in these cases simply for the sake of "doing something" for these unfortunate patients, without anticipating benefit, but it does seem to relieve their pain, perhaps through raising their level of health. Physiotherapy should, I think, always be employed as an adjuvant to the chrysotherapy, but not until the patient has improved in general health and the joints become less painful. Then encourage the full discharge of the orthopædic batteries.

I am, Sir, yours faithfully,

Liverpool, July 29th. RONALD ELLIS.

BLEEDING OF TRANSFUSION DONORS

To the Editor of THE LANCET

SIR,—I am very sorry to see that Dr. Marriott and Dr. Kekwick have taken my letters so much amiss and so little in the spirit in which they were intended. If they will re-read them, I think they will see that, so far from having "found no single good word" for either of their contributions, my comments were directed against two points only, both of them subsidiary, and on neither of which they have a right to say that I have no experience. These points were as follows:—

(1) The question of "direct approach" to veins by cutting down on them; a practice that seems to me unjustifiable except in an emergency whatever method of transfusion, drip or otherwise, is employed.

(2) The question of the degree of suction to be employed when bleeding donors. While I have never used a Dunlop foot pump for this purpose, I have in the course of the last ten years used a number of different types of pump, some of them very little less powerful than that described by the writers, and, in my experience, beyond a certain point the efficiency of the pump diminished (as might be expected when withdrawing fluid from a vessel with a highly collap-

sible wall), and moreover it gave rise to the unpleasant vibration described in my letter. This is not a theory, but an actual observation. The most efficient was a rubber bulb with a wall rather thicker than a Higginson syringe, with which a pint of blood could easily be obtained in the five minutes that the writers specify. As they say, it has to be seen to be believed.

So far from wishing to criticise the actual method of drip transfusion itself, I can assure them that I shall watch its developments with the greatest interest. I am, Sir, yours faithfully,

Grosvenor-street, W., July 27th. J. W. SHACKLE.

ARTIFICIAL RESPIRATION

To the Editor of THE LANCET

SIR,—At the request of the Secretary of the Medical Research Council I have investigated a new method of artificial respiration to which attention had been drawn by the inventor, Mr. Norman Pogose. The method is as follows:—

The patient is placed in the prone position with the face turned to one side, and the operator, standing astride, first kneels on one knee and then, passing his hands under the lower part of the body, locks the fingers together, so that the palms support the patient's abdomen in the lower part. He then rhythmically lifts up and lowers this part of the body. The lift by the action of gravity drawing any water out of the air passages, while the pressure of the hands on the abdomen forces the diaphragm up and expresses air out of the lungs. When the body is lowered air is sucked into the lungs by the elastic rebound of the thorax.

The advantages of the method are first, that no injury can be done to the ribs or internal organs, as has been done by the Schäfer method when carried out with excessive force. Secondly, the method not only forces air in and out of the lungs, but blood in and out of the right heart, and this may help to set the heart going. In the case of animals I have myself observed that some blood may even be driven through the lungs and left heart and so reach the respiratory centre by means of rhythmic compression first of the abdomen and then of the thorax. The disadvantage of the method is that it is more laborious to maintain than Schäfer's, but a succession of operators could of course keep it up; if there is only one operator available he well might alternate the Schäfer method with the Pogose method, such change being, I think, to the advantage of the patient.

With the aid of respiratory valves and a gas meter, kindly placed at my use by Sir Robert Davis, at the works of Messrs. Siebe Gorman Ltd., I have investigated on a subject the efficiency of the Pogose method in comparison with that of Schäfer and Eve.

The last method is a very efficient and easy one to carry out given the necessary apparatus, which is supplied by that firm. The patient is suitably strapped in the prone position on a light metal frame and is rocked up and down round an axis which is supported by the two legs which carry the apparatus. The weight of the viscera in the head-downward position forces up the diaphragm and expresses air out of the lungs, while air is drawn into the lungs as the body is moved into the head-upward position.

The subject of these observations while lying prone breathed naturally 11 litres a minute. By the Schäfer method lightly applied 14 litres were artificially respired; by strong application 34 litres per minute. By the Eve method there were respired 22 by slower and 36 litres by faster rate of rocking, and by the Pogose method 17 to 28 litres per minute. The Pogose method is then amply sufficient.

Mr. Pogose sets much store on adding to the treatment by artificial respiration, and, soon after its commencement, a reflex stimulation of the nervous system. He effects this by turning over the patient and sitting him up with his back supported by the operator's legs, the hands of the operator on the front of the chest, and the thumbs placed in the supraclavicular fossæ. The thumbs are used to press, five or six times in quick succession, the supraclavicular nerves against the clavicles. The patient is then laid prone again and artificial respiration continued.

Mr. Pogose claims that he has found no difficulty in teaching his method to members of the police force, and that it has been used with success in resuscitating several people. There is no doubt that his method is an efficient one; in effect it resembles Eve's rocking method, but requires no apparatus.

I am, Sir, yours faithfully,

July 30th. LEONARD HILL.

A SALARIED SERVICE OF MIDWIVES

To the Editor of THE LANCET

SIR,—In your last issue (p. 219) you suggest that organised midwives would be unlikely to support a scheme for a salaried service of midwives unless it includes the compensation of midwives not accepted for the service. The report of the Joint Council of Midwifery would not have been signed by representatives of the Midwives' Institute nor would it have been endorsed by the council of the Institute unless it had clearly recommended that all midwives in practice should have an opportunity to apply for inclusion in a salaried service and should receive reasonable compensation for giving up practice if rejected, or alternatively a pension if old or infirm.

There is no readily accessible information as to the number of independent practising midwives, their average age, length of practice, working costs, &c., which could be used to base an estimate of the cost of fair compensation and pension rates, and the Midwives' Institute has sent out 6000 questionnaires to midwives in private practice, asking for those facts. These are being returned in great numbers and Dr. Janet Lane-Claypon (Lady Forber) has most generously undertaken the considerable task of tabulating the information because she realises the value of the work done by midwives now in practice.

It is difficult to understand what the London County Council means by inefficiency. Every local supervising authority has ample powers to bring up before the Central Midwives Board midwives who break the very detailed code of Rules by which their practice is restricted.

The Midwives' Institute does not believe that the ungenerous attitude of the London County Council is likely to receive much support. It is generally recognised that midwives in this country, notwithstanding the defects in their training, the very small remuneration they receive, the unregulated competition of untrained women, their omission from national insurance schemes, the fact that they have no say in the choice of the doctor they call in when their own skill fails or is insufficient, and no direct access to hospital in emergency, can show amazingly good results and an honourable record of the care of their patients.

Changes must come, but we do not believe that it will be to the interest of mothers or the public generally to effect them at the expense of depriving of their livelihood without compensation women who, even if now superfluous, have been encouraged to come forward for training either by the often uninformed cry that there was a shortage of midwives or the eagerness with which maternity hospitals have accepted their services and their premiums.

I am, Sir, yours faithfully,

G. B. CARTER,
Organising Secretary, Midwives' Institute.

Lower Belgrave-street, S.W., July 29th.

OBITUARY

WILLIAM HOWARD JONES, M.B., B.S. Lond.

SURGEON ANÆSTHETIST, CHARING CROSS HOSPITAL

We regret to record in tragic circumstances the death of Dr. Howard Jones, a well-known anæsthetist in charge of his specialty at many London hospitals.

William Howard Jones was born in 1880 and received his medical education at Owens College, Manchester, and St. Bartholomew's Hospital, qualifying with the English double diploma in 1906 and becoming M.B., B.S. Lond. in 1913. His whole professional career was devoted to the study and practice of anæsthetics, and among the anæsthetists of London, he had achieved a notable position by his activity at their various meetings, and by the force and originality with which he was wont to state the opinions which he had formed on any subject under consideration. He had played for years a prominent part at the meetings of the section of anæsthetics of the Royal Society of Medicine, and at the time of his death held the position of secretary to the Association of Anæsthetics, which post he had occupied since the inception of the Association and for the success of which the labours of Howard Jones were in no small degree responsible. Besides the post of Hon. Surgeon Anæsthetist and Lecturer on Anæsthetics to Charing Cross Hospital, he held also those of Senior Anæsthetist to the London Temperance Hospital, and Anæsthetist to the Royal Ear Hospital and to the Royal National Orthopædic and Gordon Hospitals. Howard Jones was a keen clinical worker and was the author of several papers in which he described the methods which he employed and the opinions of the practice of anæsthetics to which his experiences had led him. One of the best of these articles is that which is to be found in the proceedings of the Royal Society of Medicine for 1924. It was entitled "The use of chloroform and the misuse of ether." Although perhaps, not so pertinent to-day when the use of gaseous anæsthetics has so greatly increased, yet Jones's justification of his paper still stands, "that the great majority of operations are still performed under the influence of ether and chloroform administered by the ordinary method of inhalation." His thesis was that, as most experts admit, there are many occasions on which chloroform is the most suitable anæsthetic to employ. He proceeded to show that "chloroform may still be of the greatest value in protecting our patients from the only too common evil effects of ether." Jones was, of course, far too experienced an anæsthetist to underrate the dangers of chloroform but, himself looking at the relative merits of ether and chloroform with an unprejudiced eye, he could twit those who are less level minded. "The word chloroform seems to provoke in some people an exhibition of almost as much fanaticism as is occasionally evidenced against that poisonous but popular liquid, alcohol." A little further on he remarks, "in both we have the unostentatious user who likes to keep a little in a convenient cupboard, or in the bottle of his gas and oxygen apparatus. Both these substances are known occasionally to damage the liver yet in each instance those are to be found, who, after all, sometimes think that the risk is worth while."

It is, however, for his work on percaine, that Howard Jones's name will be long remembered, as indeed at the present time it has become well known to anæsthetists all over the world. Particularly on the continent has this work found may admirers and imitators. His initial paper on "A new regional and spinal analgesic, with special reference to high thoracic nerve root block and a new technique" was read before the section of anæsthetics in 1930. This, as well as the still fuller paper given to the British Medical Association in the following year, contains an admirable discussion of the physics, anatomy, and physiology of the endothecal method of analgesia. Not every one agrees with the views which Howard Jones expounded, but all must admire the work on which they were based, and the forcible and lucid exposition of them which he provided. Certainly they did much to clear men's minds with regard to spinal analgesia and to disprove some commonly accepted fallacies. It was always a pleasure to listen to Howard Jones, and what he said was enhanced by the appearance of the speaker. His ruddy face, bold head, gold spectacles and plump figure completed a picture which was part Pickwick and part professor, and wholly engaging. Howard Jones left a widow and two sons to whom the deep sympathy of his many professional friends will be extended.

Mr. Macleod Yearsley writes: "The wholly unexpected death of my old friend Dr. Howard Jones, leaves one of those gaps which cannot be filled when one is getting older. We first met when Howard Jones was appointed anæsthetist to the Royal Ear Hospital some thirty years ago, and we have been friends ever since that time. For years past he has given practically all my anæsthetics, and my family and I have experienced his great skill and kindness as his individual patients more than once. As an anæsthetist, Howard Jones fulfilled every requisite of character and skill. However difficult the case, whatever the complications or emergencies that might arise, he met them all with the same unruffled calm. His very presence seemed to spell safety, he never failed one, he never let one down, and I believe I am right in saying that he never had a death. He carried out a good deal of research and his knowledge of anæsthetics was very comprehensive. As an individual, Howard Jones was warm-hearted and generous-minded, but always gave the impression of being a 'self-contained' man. One had to know him to appreciate all his many good points, and he possessed a fund of quiet humour that made him excellent company."

SAMUEL ERNEST PICKEN, M.B., B.Ch. Belf., M.C.

WE regret to announce the death of Dr. Ernest Picken of Bristow Park, Belfast, whose accidental death by drowning occurred on Sunday, July 14th, at the age of 45. He was a son of the late Dr. James Picken of Randalstown, and received his medical education at the University of Belfast, where he graduated as M.B., B.Ch. in 1914, his clinical training being conducted at the Victoria Hospital, where he acted for a time as medical registrar. He was appointed assistant professor of materia medica at Queen's University, Belfast. He joined the R.A.M.C., was twice mentioned in despatches, and awarded the Military Cross, retiring at the conclusion of hostilities with the rank of major. He then went into practice in Belfast, and soon became well known as a practitioner. Later he undertook the duties of medical referee under the Ministry of Labour, a post which he was holding at his untimely death. Dr. Picken had many friends, and deep sympathy is extended to his widow who was with him when the tragedy occurred, during a week-end holiday.

CORNELIUS WILLIAM SUCKLING, M.D., M.R.C.P. Lond.

THE death is announced, at his house in Edgbaston on June 30th, of Dr. Cornelius Suckling who for many years held a prominent position in the medical world at Birmingham. He was a native of Birmingham, received his education at Queen's College in that city, and graduated in medicine at the University of London in 1880 with first-class honours. He proceeded to the M.D. degree in 1882, taking also the diploma of M.R.C.P. London in the following year. He was for a time medical tutor to the students of Queen's College, and was elected physician to the Queen's Hospital and professor of medicine in the College, Birmingham, one of the institutions from which later the University of Birmingham was constructed. He held other posts in the city, being physician to the Children's Hospital, and the Birmingham Orthopædic and Spinal Hospital, and after the amalgamation of Queen's College with Mason College, he was appointed professor of medicine, holding the chair at Mason College for some five years. Dr. Suckling was from the beginning of his consulting practice interested in neurological problems. He contributed to *Brain*, the *International Medical Journal*, *The Lancet*, and the *Birmingham Medical Review* papers on various neurological subjects; he wrote on migraine and epilepsy, and held views on the significance of the movable kidney which did not meet with general acceptance. He married Miss A. M. Jerome of Sutton Coldfield who survives him, but they lost both their sons. He was 81 years old at the time of his death.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Ventilation of the House of Lords

IN the House of Lords on July 24th the Marquess of LINLITHGOW moved: "That it be an instruction to the House of Lords Offices Committee to consider the provision for this Chamber of an up-to-date air conditioning plant." Attendance during three days' debate in that house induced, he said, in peers of the realm symptoms of that decay, that pallor, and that loss of condition from which by scientific devices the chilled banana, the frozen joint of beef, or the gassed apple were saved. Any one of the several British firms catering for this class of work was to-day easily capable of supplying apparatus which would enable that house to prosecute its labours in conditions both healthy and entirely comfortable, whatever the climatic conditions outside.—For the Office of Works the Earl of MUNSTER, Lord in Waiting, said that the present precautions were as follows: The air was drawn in at a low level from one of the courtyards, and, if the atmospheric conditions outside rendered it desirable, it was passed through water sprays. It then went through canvas screens with the object of eliminating excess moisture and impurities and a certain amount of fog. The vitiated air in the chamber was withdrawn by a fan in the roof. This installation was in advance of what was done in any except the most modern luxury buildings, cinemas, theatres, where conditions of occupation were more congested. A modern air conditioning plant, having regard to the nature of the building, would be very costly to install, and great care would have to be exercised on the grounds of noise, but its design presented no engineering difficulties.—The motion was by leave withdrawn.

Health and Safety in Mines

On July 24th, in committee of supply of the House of Commons, Captain CROOKSHANK, Secretary for Mines, said he would like to remove a misapprehension under which Mr. John was labouring last week when he spoke on the Home Office Vote (THE LANCET, July 27th, p. 225). Mr. John had said that he found no coöperation or coördination between the Mines Department and the Home Office. He would give two instances of such coöperation:

The Departments were trying to coöperate to get the best dust respirator, which of course affected factories as well as mines; and to ascertain the efficiency of a method of laying dust after shot-firing. In the case of silicosis—one of the most important industrial diseases to-day—the Medical Research Council had a research committee dealing with causation and diagnosis. The Home Office came in to deal with compensation problems and the Mines Department came in with regard to prevention. On the prevention side there was to-day an official of the Mines Department who spent his whole time on the problem, which was a very difficult and exacting one. It was particularly baffling in South Wales, where it appeared to be on the increase, although there was no history of abnormal exposure to silica dust. On the silicosis side everything in the way of coöperation between the Departments concerned was really being done; both were represented on the research committee.

With regard to nystagmus, it was a relief to find a drop every year in the number of new cases. Between 1929 and 1933 the drop was no less than 40 per cent. He knew that there were fewer men employed, but not 40 per cent. fewer. Nystagmus had been considered to be due to bad lighting, and new lighting regulations were issued last year. Workers at the coal face must have lamps with a certain minimum performance. Those new lamps were started in use on Sept. 1st last, and a complete change over had to take place by the end of 1936. Last July the area in which mains lighting was permissible was extended, subject to certain safety precautions; it was disappointing that so little had been done. The third regulation with regard to whitewashing had brought great improvement.

With regard to accidents, the 265 casualties at the terrible disaster at Gresford had swollen the total number of fatal accidents. The total for the year was 1073, but if they excluded the Gresford disaster it was 808. The three-day accidents were 132,859. For the first six months of this year preliminary figures showed that there were 399 fatal accidents, a reduction of five compared with the same period last year. That represented a rate of 3·6 per million tons of output, the lowest rate they had had. Nevertheless, the risks and dangers of the mining industry were still something like six times those occurring in factories and workshops. In his last report the chief inspector of factories said:

"The adult worker has become accustomed to his environment, and has—or ought to have—acquired habits of caution. The young entrant finds factory life an entirely new experience, and possesses, in addition, certain qualities of youth, such as bravado and curiosity, which render him essentially susceptible to accidents. It seems to me, therefore, that it is encumbent on us to give him an apprenticeship in safety just as in his productive work, and to see that he is not only warned, but forewarned, of the dangers inherent in all industrial life."

The factory inspector went on to suggest that the young entrant into industry should be shown the principal risks to be guarded against and supplied with copies of the safety rules. Steps should be taken to see that those who met with many accidents in their first year were put on some other job. In the autumn of 1931 propaganda was started with regard to boys, and that propaganda had spread tremendously. Last year there were 261 centres at which 10,647 boys attended. Certificates were given

to those who were most successful, and 5500 of these boys received awards. This was admirable preventive work. With regard to safety equipment, most of the time of one divisional inspector was now devoted to work on that side. Summing up the work of his Department in regard to health and safety, Captain Crookshank said that research was being continued and inspection was being kept at the highest possible mark.

Mr. T. SMITH moved to reduce the Vote by £100. He said that the Labour Party thought that sufficient progress was not being made in reducing the accident-rate underground. He thought that so far as accidents at the coal face went, if there were less speed and less rush at the coal face there was a possibility that the figures might be reduced. They had to revise their opinions about explosions, the first defence against which was good ventilation. Too much shot-firing was taking place in the mines to-day. The Labour party had for many years been pressing successive Secretaries for Mines to bring in an Order making compulsory the use of gas detectors underground. There was to be a regulation from Oct. 1st, and while he believed that it was necessary and would be a step forward the Miners' Federation of Great Britain were not satisfied with the terms of the Order. They thought that there should be some consultation between the workmen and the management as to the type of detector to be used underground. He understood that every pit in the country was inspected once in 12 months, but that was not sufficient. With only 111 inspectors and more than 2000 pits it was obvious that the inspection could not be as adequate as it should be. There was a feeling among eminent mining men that the regulation governing stone-dusting ought to be revised. Instead of it being on a fifty-fifty basis the 50 per cent. should be the minimum. Stone-dusting was useless unless they used stone dust which would be effective. In the mining industry there was a good deal of poverty and far too many accidents. What the Labour Party could do to coöperate with anyone in reducing the accident-rate they would do. He recognised that the men took risks; they were compelled to do so. But all the accidents in the pits were not the men's fault. He (Mr. Smith) had seen some of the protective equipment and some of it was very good indeed, but the men in their poverty could not buy these appliances and so they were not extensively used. It would be a good investment for the owners to make provision for an extended use of this safety equipment.

Mr. ISAAC FOOT quoted two examples of the use of protective equipment in America:

A coal company employing about 1600 men enforced the use of safety shoes and goggles commencing January, 1930, and these were the results: In 1929 there were 396 eye accidents and in 1932 there were 17. The days lost in respect of eye accidents in those years fell from 5839 to 13. Taking the accidents to the foot in the same mine in those years they fell from 184 to 5 and the days lost in respect of foot accidents fell from 1129 to 54; and the reduction was progressive. In another mine the equipment was not made compulsory but 95 per cent of the employees adopted the protective helmets. In 1929 there were 126 head injuries and on June 30th, 1932, they were down to 7, and the days lost in the same years had fallen from 693 to 26.

Colonial Health Services

On July 25th Mr. MALCOLM MACDONALD, Secretary of State for the Colonies, said the economic depression had led inevitably to the cutting down of expenditure on health services. Things were now a little better. One of the most effective ways of bringing these services into contact with large native populations was, he said, to enlist the help of natives who themselves were trained to take part in the medical and health services. There had been an expansion of some of those training institutions during the last 12 months.

Take the case of the old institution which had existed for some time in Ceylon. There the expansion had taken place by the recruitment of additional members to the staff, so that they could train at any given time an increased number of medical students. In the case of Nigeria, where they had not got an old-established institution, they were developing these services for training natives in medical work by expanding the medical course which was given there. They had now made arrangements in Nigeria which would enable natives to get full professional qualifications.

Mr. MacDonald added that more money was being spent on medical research into yellow fever, malaria, sleeping sickness, and other endemic diseases.

Dr. MCLEAN said that with regard to public health work, upon which little was heard until things began to go wrong, the medical officer of health seldom got credit for his preventive measures. Those who had been connected with the application of health measures knew the great difficulties that existed in getting that native coöperation which was so essential in matters like anti-malarial work. He remembered once remonstrating with a native about leaving stagnant pools of water which bred out mosquitoes carrying the disease. He replied quite simply, "If God wishes the fever to come here no Government regulations will keep it away.":

HOUSE OF COMMONS

MONDAY, JULY 29TH

Medical Testimony and Pension Claims

Mr. MABANE asked the Minister of Pensions whether he was aware that many soldiers of the Great War were now beginning to suffer from ailments, or were experiencing recurrences or after-effects of ailments or wounds sustained in the war, or were dying prematurely, and that in many cases it was not possible to establish an incontrovertible medical history to relate present ailments or premature death to war service; that there was a widespread sentiment throughout the country that the pledge given during the war that no soldier should fail to receive full compensation for any injury he sustained should be most generously interpreted; whether he would, therefore, consider appointing non-medical bodies of ordinary citizens, similarly constituted to common juries, to decide upon cases where there was conflict of medical testimony; and whether he would be prepared to accept the decision of such bodies as final.—Mr. R. S. HUDSON replied: I am glad to be able to assure the hon. Member that the late claims now being received, which are diminishing in number, are not determined on evidence amounting to legal proof or the absence of it, as he would appear to imagine. On the contrary, each case is decided on its merits in the light of all the evidence available, and frequently after consultation with outside specialists of eminence. I am afraid I do not consider the suggestion in the last part of the question either necessary or practicable.

Sir JOHN WALLACE: Is due weight attached to independent medical testimony which may be in conflict with the official testimony; and is my hon. friend aware that in spite of his reply very serious cases of grievance are arising all over the country on account of the lack of consideration extended to the cases referred to?

Mr. HUDSON: As the hon. member knows there is a procedure in operation by which where there is any serious difficulty the case is submitted for the advice of an eminent outside professional expert nominated by the president of the Royal College of Physicians or the president of the Royal College of Surgeons as the case might be. I think I am correct in saying that in no case has the advice of that independent expert been disregarded. In every case his advice has been taken by my Department.

Water Supply in Rural Areas

Colonel ROPNER asked the Minister of Health whether he had received any recent notification of shortage of water in rural districts; and what action he was taking.—Mr. SHAKESPEARE, Parliamentary Secretary to the Ministry of Pensions, replied: My right hon. friend has not received any recent notification of serious shortage except in a few rural areas. In all cases brought to his

notice an engineering inspector visits the locality with a view to expediting the preparation and carrying out of a permanent scheme. In rural areas generally good progress is being made, and so far grant has been provisionally allocated in respect of schemes for 1360 parishes of a total estimated capital cost of £3,900,000.

Poisons Board and Teaching of Chemistry

Mr. HENDERSON STEWART asked the Home Secretary if he had considered the protest of St. Andrew's University against the recent proposals submitted by the Poisons Board; and if he could give the assurance that no attempt would be made, by vesting powers in an outside institution, to infringe the independence of the university as regards the teaching of chemistry.—Captain WALLACE, Under-Secretary, Home Office, replied: My right hon. friend will give the fullest consideration to the representations of St. Andrew's University in conjunction with the other representations which he has received. I am not in a position at the moment to make any further statement in the matter, since the statutory period for making representations in regard to these rules only expired yesterday.

Children's Branch at Home Office

Mr. RHYS DAVIES asked the Home Secretary when it was intended to issue the next report covering the work of the Children's Branch.—Captain WALLACE replied: The staff of the Children's Branch has been so much occupied with the administration of the new Children and Young Persons Act and other matters that it has not been found possible to review its work in another report. My right hon. friend recognises the usefulness of these reports and hopes to have one issued as soon as circumstances permit.

Sickness in the Public Service

Mr. HERBERT WILLIAMS asked the Secretary to the Treasury if he could furnish any comparative statistics as to the respective sick absences of males and females in the public service.—Mr. DUFF COOPER, Financial Secretary to the Treasury, replied: Statistics relating to the sick absences of some 50,000 established non-industrial civil servants in certain large departments, other than the post office, indicate that the average number of days sick leave per annum taken by men and women during the years 1932, 1933, and 1934 were as follows:—

Men (disabled)	11·8
,, (others)	8·6
Women	12·9

Corresponding figures for the post office, relating to about 160,000 established persons, are:—

Men (disabled)	15·1
,, (others)	10·7
Women	12·2

Air Raid Circular to Local Authorities

Mr. TEMPLE MORRIS asked the Home Secretary the nature of the replies received from local authorities to the recent air-raid circular; and whether he had received any refusals to take action under it.—Captain WALLACE replied: The purpose of the circular was to convey information to local authorities, and no reply was called for. Local authorities are presumably waiting for the conferences referred to in the circular, which will be held after the holidays. No refusals to take action under the circular have been received.

WEDNESDAY, JULY 24TH

Children and Gas Mask Drill

Mr. MORGAN JONES asked the President of the Board of Education whether any plans had been made for the training of school-children in gas-mask drill, or whether such plans were contemplated.—Mr. RAMSBOTHAM, Parliamentary Secretary to the Board of Education, replied: No, Sir.

Precautions against Air Attacks

Mr. HARCOURT JOHNSTONE asked the Prime Minister whether instructions for compulsory "black-outs" in districts where experiments were being carried out against air attacks were issued by authority of any Government department; and, if so, by what authority such orders were given.—Mr. BALDWIN replied: No instructions for compulsory "black-outs" have been issued or are in contemplation. These experiments, like all other air-raid precautions services, are being carried out with the voluntary coöperation of all concerned.

Mr. DOBBIE asked the Home Secretary what plans, if any, had been made to prevent the sale of worthless, inefficient, and dangerous gas masks to the general public; if he proposed to institute financial control over such firms in order to prevent profiteering; further, if he intended to examine such products systematically in order to ensure that inefficient appliances were not sold to the general public; and if he would take steps to ensure that the durability and reliability of all gas masks, both in use and in storage, was clearly indicated on the mask when it was sold.—Captain WALLACE, Under-Secretary, Home Office, replied: The Government are fully alive to the importance of protecting the public against the sale of respirators of inferior capabilities, and are actively investigating the most suitable means of achieving this object. Special consideration is being given to the question of inspection.

Mr. LOGAN asked the Home Secretary what quantities of bleaching powder, which could be used as a decontaminating agent against poison gas, were available; how long such reagent could be stored without deterioration; and if he proposes to recommend its use to local authorities.—Captain WALLACE replied: Bleaching powder is an ordinary commercial product, but particulars of the available stocks cannot be stated. Its deterioration is largely a question of methods of packing and storage. Information to local authorities as to its use for decontamination purposes will be included in publications now in course of preparation.

THURSDAY, JULY 25TH

Food Value of Herrings

Mr. CHORLTON asked the President of the Board of Education whether, as the food value of herrings was so high and the quantity available so great, he would make arrangements to supply schools in a similar manner to that which was used for milk at the present time.—Mr. OLIVER STANLEY replied: I am afraid it would prove impracticable to distribute herrings in schools in the manner suggested by my hon. friend. In view of the high food value of herrings, however, I should welcome their increased use as part of the midday meals supplied at feeding centres and school canteens.

TUESDAY, JULY 30TH

New Military Hospital at Edinburgh

Mr. GUY asked the Financial Secretary to the War Office what progress had been made in the negotiations between the War Office and the Edinburgh corporation for the purchase of land at Redford for a military hospital and new artillery barracks.—Mr. DOUGLAS HACKING replied: No final decision has yet been reached, but it is hoped that the scheme will be completed within the next few weeks.

Mines Inspectors at Coroners' Inquests

Mr. TINKER asked the Secretary for Mines how many coroners' inquests were attended by His Majesty's inspectors of mines during 1934; and the highest number attended by one inspector.—Captain CROOKSHANK replied: The number of coroners' inquests attended by H.M. Inspectors of Mines in 1934 was 854; in addition they attended 140 fatal accident inquiries in Scotland, where there is no coroner's inquest. The highest number attended by one inspector was 44.

Welfare Work in Mining Areas

Miss WARD asked the Secretary for Mines whether he would consider instituting an inquiry into the adequacy of the welfare work carried on throughout the mining areas.—Captain CROOKSHANK: I would remind my hon. friend that the whole question of miners' welfare

work was fully investigated by the Departmental Committee under the chairmanship of Lord Chelmsford in 1932, and there is clearly no justification for another such inquiry. I understand, however, that following upon the extension of the period of the Miners' Welfare Levy by the Mining Industry (Welfare Fund) Act of last year, the Miners' Welfare Committee is approaching the various District Committees with a view to having separate surveys made of the welfare facilities available in each district. I may add that a welfare organiser has recently been appointed for Northumberland who will commence a survey of that district shortly.

MEDICAL NEWS

University of Oxford

Dr. A. M. Cooke, has been re-elected to the May fellowship and readership for a further period of three years.

University of London

On July 17th the degree of Ph.D. was conferred on Dr. S. S. Bhatnagar, and Dr. C. E. Dolman.

At recent examinations T. F. Todd was successful in passing branch I (surgery) of the M.S. degree.

University of Manchester

Dr. James Davson has been appointed demonstrator in pathology.

Royal College of Physicians of London

At the quarterly meeting of the college on July 25th, with Lord Dawson, the president, in the chair, the following fellows were elected officers for the ensuing year :—

Censors : Sir Arthur J. Hall, Dr. Gordon M. Holmes, F.R.S., Dr. H. Letheby Tidy, and Dr. C. E. Lakin. Treasurer : Dr. Sidney P. Phillips. Registrar : Sir Raymond Crawfurd. Harveian Librarian : Dr. Arnold Chaplin. Assistant Registrar : Dr. Charles Newman. Library Committee : Dr. H. R. Spencer, Dr. J. J. Conybeare, Dr. A. E. Clark-Kennedy, and Dr. Reginald Hilton. Curators of the Museum : Dr. G. E. Beaumont, Dr. Maurice Davidson, Dr. R. A. Hickling, and Dr. Daniel Davies. Finance Committee : Dr. T. Watts Eden, Dr. C. R. Box, and Prof. F. S. Langmead.

The following were elected examiners :—

Chemistry : Mr. Herbert Lambourne and Mr. C. S. Gibson. Physics : Mr. W. H. White and Mr. Gilbert Stead. Materia Medica and Pharmacology : Dr. Philip Hamill, Dr. R. St. A. Heathcote, Dr. Clifford Hoyle, Dr. E. Gordon Holmes, and Prof. W. J. Dilling. Physiology : Prof. C. A. Lovatt Evans, F.R.S., and Prof. D. T. Harris. Anatomy : Dr. Thomas Yeates. Pathology : Dr. C. M. Wilson, Dr. C. Terence East, Prof. Geoffrey Hadfield, and Dr. P. N. Panton. Medical Anatomy and Principles and Practice of Medicine : Dr. Otto Leyton, Dr. C. M. Hinds Howell, Dr. A. G. Gibson, Dr. H. C. Cameron, Prof. A. E. Naish, Sir Stanley Woodwark, Dr. Anthony Feiling, Dr. G. E. S. Ward, Prof. W. H. Wynn, Dr. J. W. McNee, Dr. J. Forest Smith, and Dr. T. Jenner Hoskin. Midwifery and Diseases peculiar to Women : Prof. Gilbert Strachan, Mr. J. M. Wyatt, Mr. A. J. McNair, Mr. Leslie Williams, and Prof. R. P. Ranken Lyle. Public Health : Part I., Prof. M. E. Delafield, and Part II., Dr. C. T. Maitland. Tropical Medicine : Prof. J. Gordon Thomson and Lieut.-Colonel G. S. Parkinson. Ophthalmic Medicine and Surgery : Dr. F. M. R. Walshe. Psychological Medicine : Part I., Dr. R. D. Gillespie ; Part II., Dr. Douglas McAlpine, and Dr. A. A. W. Petrie. Gynæcology and Obstetrics : Mr. J. P. Hedley. Laryngology and Otology : Mr. V. E. Negus. Radiology : Mr. J. H. Brinkworth and Dr. H. K. Graham-Hodgson. Anæsthetics : Dr. C. W. Morris. Child Health : Dr. Leonard G. Parsons. Murchison Scholarship (1936) : Dr. H. Gardiner-Hill and Dr. C. F. Harris.

Lord Dawson was re-elected the representative of the college on the governing body of the British Post-graduate Medical School.

The president announced the award of the Baly medal to Mr. F. H. A. Marshall, Sc.D., F.R.S., as a pioneer in the experimental investigation of sexual physiology and the relation of hormones to it ; and the award of the Bisset Hawkins medal to Sir George Newman for his distinguished services to public health and for the leading part played by him in the institution of social medical services.

The following appointments were announced :—

Sir Walter Langdon-Brown as Harveian orator, 1936 (the forthcoming Harveian Oration in October next will be delivered by Sir Henry Dale, F.R.S.) ; Dr. Edward Mapother as Bradshaw lecturer, 1936 ; Dr. E. L. Middleton as Milroy lecturer, 1936 ; Dr. R. A. McCance as Goulstonian lecturer, 1936 ; Dr. John Parkinson as Lumleian lecturer, 1936 ; Mr. Joseph Needham, Sc.D., as Oliver-Sharpey lecturer, 1936 ; Dr. J. D. Rolleston as FitzPatrick lecturer, 1936 ; Dr. R. R. Trail as Mitchell lecturer, 1936 ; and Dr. Edwin Bramwell as Croonian lecturer, 1937.

The Murchison scholarship was awarded to Dr. W. M. Wilson. Leverhulme scholarships were awarded to Dr. R. L. Noble and Dr. C. C. Ungley ; a grant from the same fund was made to Dr. Janet Vaughan to continue the work on which she was engaged before relinquishing her scholarship ; and Dr. E. G. L. Bywaters and Dr. L. C. Bousfield were reappointed for six months as Mackenzie Mackinnon scholars.

The following candidates satisfied the Censors' Board and were admitted members of the college :—

Herbert Ernest Appleyard, M.D. Univ. W. Ont. ; Alexander Howard Barber, M.B. Birm. ; Robert Freeland Barbour, M.B. Edin. ; Alfred Ernest Barclay, M.D. Camb. ; Cyril George Barnes, M.D. Lond. ; William Alexander Caldwell, L.R.C.P. Lond., D.P.M. ; Ram Nath Chopra, C.I.E., M.D. Camb. (in absentia) ; John Francis Coates, M.D. Brist. ; Charles Crookenden Cobb, M.B. Oxon. ; Hugh Wolfe Corner, M.D. Aberd. ; Joseph Edward Debono, M.D. Malta ; Maurice Edmund Disney, M.B. Lond. ; Guy Arthur Emmerson, M.B. Camb. ; Charles Edmund Garson, M.B. Madras ; Prashanta Kumar Ghosh, M.B. Calcutta ; Vishnu Ramchandra Ginde, M.B. Bombay ; Sayed Ahmad Hasan, M.B. Punjab ; Mostafa Hashem, M.B. Cairo ; Mark Ian Alastair Hunter, L.R.C.P. Lond. ; Basapa Sangapa Jirge, M.B. Bombay ; Jonas Henrick Kellgren, M.B. Lond. ; Michael John Francis McArdle, M.B. Lond. ; Thomas Christopher Maling, M.B. Camb. ; Malcolm William Miller, M.B. Adelaide ; Wilfrid Davison Newcomb, M.D. Camb. ; David Neill Parfitt, M.D. Lond. ; Arthur Spencer Paterson, M.D. Edin. ; Hubert Edward Spencer Pearson, M.B. Lond. ; Sydney Augustine Propert, B.Chir. Camb. ; Kenneth Robson, M.B. Camb. ; Susanta Kumar Sen, M.B. Camb. ; Mangaldas Jagjivandas Shah, M.B. Bombay ; Edward Peter Sharpey-Schafer, L.R.C.P. Lond. ; Patrick McIlroy Smyth, M.B. Camb. ; Alan Carruth Stevenson, M.B. Glasg. ; Magnus Louttit Thomson, M.B. Aberd. ; Henry Arthur Treble, M.B. Oxon. ; Ralph Whishaw, M.B. Sydney ; Arthur Willcox, M.B. Camb. ; Morvyn Williams, L.R.C.P. Lond. ; Ralph Paul Williams, M.D. Lond. ; Mary Juliet Wilmers, M.B. Lond. ; John Caspar Winteler, M.B. Lond., L.R.C.P. ; and George Payling Wright, M.D. Oxon.

Licences to practise were conferred upon 205 candidates (183 men and 22 women) who have passed the final examination of the Conjoint Board and have complied with the college by-laws. The following are the names and the medical schools of the successful candidates :—

H. L. Ackerman, Lond. ; S. N. Ahmed, Osmania and Birm. ; S. G. Alavoine, Lond. ; H. F. Anderson, Camb. and St. George's ; S. O. Aylett, King's Coll. ; P. H. Ball, Camb. and St. Bart.'s ; H. D. G. Barnes, Lond. ; Mary J. Bartlett, Roy. Free ; R. D. I. Beggs, Middlesex ; Dipak Bhatia, Punjab and West Lond. ; K. O. Black, Camb. and St. Bart.'s ; B. E. Blair, St. Thos. F. L. Bland, Birm. ; A. C. Blandy, Camb. and Lond. ; Katherine M. Blenkin, Roy. Free N. H. Bloom, Manch. and St. Bart.'s ; A. S. Bookless, Camb. and Guy's ; Fenton Braithwaite, Camb. and St. Bart.'s ; W. G. Brander, Camb. and St. Thos. ; Margaret C. Briggs, Roy. Free; Margaret Brodigan, Univ. Coll. ; A. J. Broomhall, Lond. ; E. A. E. A. Brown, St. Mary's ; J. L. Brown, Liverp. ; K. P. Brown and L. H. Buckland, St. Bart.'s ; Kathleen E. Burnell, Roy. Free ; E. W. Burstal, St. Bart.'s ; H. A. Burt, Camb. and Univ. Coll. ; J. H. Caverhill, St. Thos. ; H. G. Cereseto, St. Bart.'s ; John Charnley, Manch. ; P. W. Clarkson, Guy's ; J. G. Clothier, King's Coll. ; J. H. Cobb, Univ. Coll. ; Benjamin Cohen, Charing Cross ; G. H. Collier, Manch. ; C. D. Coode, Oxon. and Lond. ; A. H. Cooke, St. Bart.'s ; J. T. Corbett, Birm. ; R. F. Courtin, St. Thos. ; David Craig, St. Bart.'s ; J. M. Cribb, Oxon. and Cardiff ; G. F. Crickmay, St. Thos. ; Annys M. Cusack, Univ. Coll. ; Gilbert, Dalley, St. Bart.'s ; V. R. Damle, Bombay ; D. V. Davies, Univ. Coll. ; D. W. Davies, Cardiff and Middlesex ; R. D. L. Davies, Middlesex ; W. J. F. Davies, Cardiff ; A. B. Dempsey, Lond. ; Thomas Denness, St. Thos. ; W. H. H. J. De W. De Wytt, Dubl. ; L. D. P. Dharmaratne and C. W. Dixon, King's Coll. ; R. C. Dolly, St. Bart.'s ; E. W. Dorrell, Camb. and St. Bart.'s ; J. F. Dow, Camb. and Middlesex ; Jean Duncan Whyte, Roy. Free ; L. S. Dymond, Cardiff ; K.G. Eckersley, Leeds ; J. E. Elliott, Guy's ; G. D. Elphick, Camb. and St. George's ; Maurice Epstein, St. Bart.'s ; N. P. Eskell, Camb. and Brist. ; E. W. R. Fairley, St. Thos. ; Dora J. B. Falconer, Roy. Free ; I. A. Feldman, Leeds ; Annie Fidler, Manch. ; J. G. Field, Brist. ; E. L. Fisher, St. Bart.'s ; C. S. Ford, Middlesex ; I. M. Fradkin, Lond. ; O. P. Frank, St. George's ; Mayer Frohlich, Middlesex ; J. G. Garman, Birm. ; J. H. Garnett, Manch. and Lond. ; K. D. Gibson, Camb. and St. George's ; B. M. Goldsworthy, St. Thos. ; J. F. Goodall, Leeds ; C. N. Gosse, Camb. and St. Mary's ; D. R. Gray, Camb. and Brist. ; Gladys J. Greenhalgh, Roy. Free ; C. U. Gregson, Camb. and Liverp. ; G. S. C. De S. Gunasekera, Ceylon and West Lond. ; Irene G. Hamilton, Brist. ; D. R. Hanbury, Middlesex ; D. T. K. Harris, St. George's ; M. J. Harris, Guy's ; W. N. L. Haynes, St. Thos. ; Sylvia A. M. Herford, Roy. Free ; N. J. P. Hewlings, Camb. and St. Bart.'s ; C. C. Houghton, Birm. ; D. M. Hughes, Cardiff ; T. P. E. Hughes, Oxon. and Middlesex ; C. S. Humphries, Camb. and St. Thos. ; H. B. Hunt, Birm. ; M. I. Husain Osmania and Lond. ; N. W. Irish, Guy's ; E. C. O. Jewesbury, Oxon. and St. Bart.'s ; H. D. Johnson, Camb. and St. Thos. ; S. J. Johnson, Univ. Coll. ;

S. A. Jones and H. S. Joseph, St. Bart.'s; Solomon Kaufman, Univ. Coll.; A. R. Kelsall, Camb. and St. Bart.'s; T. B. Kenderdine, Birm.; A. R. Kennedy, St. Bart.'s; A. S. Kerr, Liverp.; A. A. Khan, Hyderabad and Lond.; F. J. D. Knights, Middlesex; M. J. Lange, Guy's; R. B. Leech, Camb. and Lond.; P. H. Lenton, Camb. and Middlesex; M. J. Levi, Leeds; Harry Levitt, Charing Cross; J. L. Lewis, Lond.; P. T. Liem, Hong Kong and St. Thos.; C. A. Lillicrap, Guy's; W. L. Lister, St. Mary's; Oswald Lloyd, Middlesex; O. G. Lloyd, Univ. Coll.; J. F. Loutit, Melb. and Lond.; A. C. Maguire, Charing Cross; J. I. C. Mason, St. Bart.'s; D. N. Matthews, Camb. and Charing Cross; W. d'A. Maycock, McGill; Ellen Mayer, King's Coll.; W. R. Merrington, Univ. Coll.; Samuel Meyers, King's Coll.; I. H. Milner, Charing Cross; C. R. Morison, Camb. and St. Bart.'s; L. F. Muldavin, St. Mary's; N. W. N. Murray, King's Coll.; W. G. Murray-Browne, Camb. and St. Thos.; M. L. Nairac, St. Bart.'s; J. B. Neal, Westminster; Howard Nicholson, Univ. Coll.; B. P. Niyogi, Calcutta and West Lond.; A. J. Owston, Camb. and St. Bart.'s; J. G. Parekh, Bombay and St. George's; Maude A. Parfitt, Univ. Coll.; W. D. Park, St. Bart.'s; J. N. Parker, Manch.; D. N. Parry, St. Thos.; P. S. Patuck, Univ. Coll.; Mary M. Paulosky, West Lond.; G. E. Paxon, Guy's; G. W. V. Pegge, Camb. and St. Mary's; A. D. Petro, Camb. and St. George's; E. H. D. Phillips, Camb. and St. Bart.'s; R. M. G. Pole, St. Bart.'s; A. R. Pope, Camb. and St. Bart.'s; R. J. Porter, Camb. and Lond.; I. H. Premdas, St. Bart.'s; J. S. Price, Birm.; W. A. Pritchard, Univ. Coll.; D. A. Prothero, St. Bart.'s; S. A. Qadri, Osmania and Birm.; B. K. R. Rao, Mysore and Lond.; R. G. Record, Birm.; S. J. R. Reynolds, Camb. and Charing Cross; E. A. Richards, St. Thos.; K. E. O. Ringdahl, St. Bart.'s; Bernard Roberts, St. Mary's; Hilda Roberts, Liverp. and West Lond.; R. E. Rodgers, Camb. and St. Thos.; P. W. D. Russell, St. Thos.; J. P. Salkield, Univ. Coll.; R. G. Samuel and R. S. Saxton, Camb. and St. Bart.'s; Moses Schlaff, St. Bart.'s and West London; James Schofield, St. George's; P. G. Scott, Camb. and Univ. Coll.; Coleman Segalov, King's Coll.; Girija Nath Sen, Calcutta and St. Bart.'s; H. J. Sherren, Camb. and St. Thos.; S. G. Shippard, King's Coll.; N. S. Shtetinin, Manch.; Aubrey Smiter, St. Mary's; G. C. Smith, St. George's; Elsie M. Smyth, Univ. Coll.; S. J. Stein, King's Coll.; Eunice F. Sterling, Rochester and Roy. Free; J. M. Stewart, St. Bart.'s; Abraham Stoller, Univ. Coll.; D. W. I. Thomas, St. George's; H. C. Thomas, Lond.; S. M. Thompson, Camb. and Leeds; J. D. B. Vaile, St. Thos.; W. H. Valentine, Camb. and St. George's; Constance M. Vallange, West Lond.; P. W. Vilain and Alan Wardale, King's Coll.; Melville Watkins, St. Mary's; Elizabeth H. Western, Camb. and King's Coll.; B. L. Williams, Camb. and St. Thos.; Eugénie L. Willis, Camb. and Roy. Free; A. B. Wilson, Manch.; J. S. H. Wilson, St. Bart.'s; G. N. M. Wishart, Manch.; Rowena Woolf, Roy. Free; G. F. Wright, Camb. and St. Thos.: and Hyman Yarrow, St. Bart.'s.

Royal College of Surgeons of England

An ordinary meeting of the Council was held on July 25th, with Sir Cuthbert Wallace, the president, in the chair. Mr. Thomas William Widdowson was elected a member of the board of examiners in dental surgery. Prof. G. A. Buckmaster and Mr. Gordon-Taylor were appointed examiners for the forthcoming primary examination in India for the fellowship. The president stated that, after the primary fellowship examination, which will be held at the end of this year, the next examination in India will not take place until 1937.

The following hospitals were approved with the posts specified for recognition for the six months' surgical practice required of candidates for the final examination for the fellowship:—

London.—The West London Hospital (3 house surgeons); Woolwich and District War Memorial Hospital (for two years, senior resident medical officer and one house surgeon).

Provinces.—Radcliffe Infirmary, Oxford (resident surgical officer and one house surgeon; Cornelia and East Dorset Hospital, Poole (for two years—one house surgeon); Swansea General and Eye Hospital (senior resident medical officer and 3 house surgeons).

Diplomas in anæsthetics were granted to the following under the special conditions of the regulations, jointly with the Royal College of Physicians:—

H. E. G. Boyle, Robert Brown, J. M. Clark, F. T. Evans, C. F. Hadfield, Frederick Whalley.

The following diplomas were also granted jointly with the Royal College of Physicians:—

D.O.M.—K. B. Armstrong, F. G. Fenton, N. W. Gardener, P. K. Guha, M. A. L. Hassouna, T. H. Hodgson, R. H. Hucknall, G. A. Jamieson, Hermann Lipschütz, M. C. Mankodi, J. R. Mutch, Samuel Pearlman, Violet M. Phelps, H. L. Shankman, S. K. Sledge, A. McL. Thomson, T. H. S. Tizzard, and S. D. H. D. Wallis.

D.M.R.E.—Christine C. Abernethy, D. Hugo, and D. J. Thomas.

Diplomas of membership were granted to the candidates named in the report of the meeting of the Royal College of Physicians.

Diplomas were also conferred jointly with the Royal College of Surgeons on those candidates named in our issue of June 22nd, p. 1476, July 20th, p. 167, and in this issue under the Royal College of Surgeons.

Dr. Barugh Spearman, chief medical and health officer for Grenada, has been appointed a member of the Executive Council of the island.

University College Hospital Medical School

The Bilton Pollard fellowship has been awarded to Dr. J. C. Hawksley.

Epsom College

St. Anne's Scholarship.—The council will shortly elect a girl to a St. Anne's Scholarship of £110 a year, tenable at an approved boarding school. Candidates must be not less than nine years of age on July 30th, 1935, and must be orphan daughters of medical men, who, for not less than five years have been in independent practice in England or Wales. Application must be made by Oct. 22nd on a form to be obtained from the secretary of the College, 49, Bedford Square, London, W.C. 1.

Middlesex Hospital Medical School

On July 24th this hospital celebrated the hundredth anniversary of the foundation of its medical school. In the afternoon the Earl of Athlone, chancellor of the University of London, visited the hospital to present the prizes to the students and nurses. Prince Arthur of Connaught presided and among those present were Lord Dawson, P.R.C.P., Sir Cuthbert Wallace, P.R.C.S., and Dr. J. S. Fairbairn, P.C.O.G. Mr. A. E. Webb-Johnson, treasurer of the medical school, speaking on the "First Hundred Years," described the steady progress which had taken place in the science and practice of medicine during this time; thousands who had watched the Jubilee procession would not have lived to see it but for the application of newly acquired medical knowledge. He reminded his listeners of the alliance of the medical school with the University of London, and of the many benefactors who had helped it in recent years—including Bland Sutton, the Joels, John Astor, and S. A. Courtauld. Lord Dawson and Sir Cuthbert Wallace congratulated the school on behalf of the Royal Colleges. Dr. H. E. A. Boldero, the dean of the medical school, announced that two scholarships of £100 each were being founded by the council for London University men who had done their preclinical work. Mr. E. W. Meyerstein had given £3000 to endow one of these scholarships, and had also given the school £20,000 to add to the accommodation available for students.

In the evening Prince Arthur of Connaught and Mr. Courtauld received a large company in the board-room of the school. A display of scientific exhibits had been prepared in the different rooms and in the first section, devoted primarily to radiotherapy, there were "electromagnetic surprises," "radium luminosities," an instrument which tracks down missing radium, and a model of the projected radiotherapy department. In another section apparatus for artificial respiration attracted much attention, and there were also demonstrations of the electric currents produced by heart-beats and of methods used in the examination of foods, drugs, stimulants and soaps, historical exhibits were arranged in the dean's room, and engravings and photographs in the senior common room. Prof. Samson Wright also gave several exhibitions of a cinematograph film of the circulation of the blood, while the temperature of the ordinary air intensified the audience's appreciation of Prof. W. B. Tuck's demonstration of the freezing properties of liquid air. (Incidentally, his frozen whisky had so much success that only the licensing laws, he averred, prevented him from promoting a new line of the stop-me-and-buy-one business.) In the museum upstairs microbes were treated with thoughtful concern, one of the tables being reserved for "delicacies to tickle the bacterial palate." Other exhibits in the same section included blood pictures in disease and blood tests in infection and fevers. Elsewhere the visitors were shown examples of the use of biochemical analysis and tests in medicine, the observation of cell metabolism, and the determination and application of the basal metabolic rate. A fifth section displayed the equipment of the X ray diagnostic department, which is said to be capable of handling 30,000 to 40,000 cases per annum. It includes an X ray pathological museum with ten sections of viewing-boxes, each devoted to a particular part of the body.

Royal Dental Hospital

The prize distribution and conversazione of the Royal Dental Hospital and London School of Dental Surgery, will be held at the hospital (32, Leicester-square W.C.), on Friday, Oct. 4th, at 8 P.M. when Sir Francis Dyke Acland, will preside.

London Hospital Medical College

The post-graduate course for former students of this school will be held from Oct. 16th to 19th. Further particulars may be obtained from Dr. A. E. Clark-Kennedy, the sub-dean, the London Hospital E.1. The annual, dinner for all past students of the hospital will take place at the Trocadero Restaurant, Shaftesbury-avenue, W., on Thursday, Oct. 17th, at 7.30 P.M.

University of Hong Kong

Mr. W. C. W. Nixon, F.R.C.S, assistant obstetrical surgeon with charge of out-patients at St. Mary's Hospital, London, has been appointed professor of obstetrics and gynæcology in the University, and consultant to the Government Civil Hospital, Hong Kong.

Royal Society of Medicine

The William Gibson research scholarship for medical women has been awarded to Dr. F. Stephen-Lewis of the University of Witwatersand. Dr. Stephen-Lewis proposes to carry out a resecrch on the chenistry of South Africann plants, and particularly those used by the natives as medicines. She will also investigate physiological data for the various native tribes.

International Union against Tuberculosis

Delegates from twenty countries attended a council meeting of the union at 66, Boulevard St. Michel, Paris, on July 10th and 11th, under the chairmanship of Dr. Piestrzynski, under-secretary of state for Poland. The administrative meeting was devoted to the preparation of the programme of the Lisbon conference on Sept. 8th–10th, 1936, when the principal subjects of discussion will be "Radiological aspects of the pulmonary hilum and their interpretation" (to be opened by Prof. Lopo de Carvalho, Portugal); "Primary tuberculous infection in the adolescent and the adult" (Dr. Olaf Scheel, Norway); "The open case of tuberculosis in relation to family and domestic associates" (Sir Henry Gauvain, Great Britain). At the scientific meeting Prof. Lyle Cummins (Cardiff) occupied the chair, and Prof. Madsen (Copenhagen), submitted a report on "Tuberculin Standardisation and Tuberculin tests." Dr. Kendall Emerson, managing director of the National Tuberculosis Association, gave an account of the work of Dr. Long and his collaborators, who claim to have isolated the active principle of tuberculin. The relative merits of Pirquet's cuti-reaction and Mantoux's intradermal test were considered; the majority of the French speakers expressed a preference for the former, while their colleagues from other countries preferred Mantoux's test. They all agreed on the advisability of adopting a standard tuberculin and a uniform tuberculin test.

La Semaine Medicale Internationale

An international medical week has been organised by the Schweizerische Medizinische Wochenschrift at Montreux from the 9th to the 14th September under the control of a distinguished Swiss committee. The programme opens with a reception on the evening of Sunday, Sept. 8th, in the Montreux Casino. Important discussions on general subjects have been promised for the ensuing days, and such authorities as Sir Henry Dale and Profs. Abderhalden, Sigerist, de Quervain, Sanarelli, and Lemierre, will take part in them on Monday, Tuesday, and Wednesday. On Thursday debates on neuroses and failures of growth in children will be followed by a visit to the Nestlé factory. On Friday the treatment of cancer will be discussed from many angles, special attention being paid to radiotherapy. The sittings will take place in the mornings in the Montreux Palais, and receptions are planned at which ladies accompanying the congressists will be welcomed, a special ladies' committee having been instituted. Further information can be obtained from the Sekretariat der Interpationalen Medizinischen Woche in der Schweiz, Klosterberg 27, Basel.

Advisory Committee on Nutrition

The Minister of Health and the Secretary of State for Scotland have appointed Dr. T. W. Wade, of the Welsh Board of Health, and Mr. E. H. H. Lloyd, secretary of the Market Supply Committee, to be members of the new Advisory Committee on Nutrition. The constitution of the committee was announced in our issue of June 8th (p. 1364).

Medical Charitable Society for the West Riding

The annual meeting of this society was held at Huddersfield on June 30th, Dr. D. L. Cairns presiding. Forty-four applications came before the meeting and, all being found deserving, grants were made amounting to £2,283. To mark the occasion of the King's Silver Jubilee a gift was made to each recipient of 10 per cent. of the amount of the grant allotted. Of the recipients, nine had already been given twenty or more grants, three had been given thirty or more grants, and one applicant had received no fewer than 53 grants. One of the annual subscribers died in the year 1883; in respect of his membership the first application was made by one of his sons just fifty years after, and was at once met by an emergency grant and by an ordinary grant at the next annual meeting. Since the inception of the society grants have been made amounting to £95,726 and £49,670 expended in the purchase of securities. A grant of £50 was made to Epsom College; under the new rules, money can now be voted by the society for foundation scholarships at the College. The objects of the society are to help any of its members who are disabled by illness, accident or age and who have not adequate means of support; to help the widow or children of a deceased member, who may at any time require assistance; under certain restrictions, to extend help to the relation of a deceased member who may have acted as his housekeeper, and finally to contribute to the expenses of the education of children of members or of deceased members in cases where it is deemed advisable to do so.

Appointments

MARSHALL, S. F., M.B., M.R.C.P. Lond., has been appointed Pathologist to St. Mary's Hospital for Women and Children, Plaistow.

PRATT, F. W. M., M.S. Durh., F.R.C.S. Eng., Hon. Surgeon to the Willesden General Hospital.

SELBOURNE, HUGH, M.D., M.R.C.P. Lond., Medical Registrar at the Southend-on-Sea General Hospital.

SPENCER, S. L., M.B. Sydney, F.R.C.S. Eng., Surgical Registrar at the Southend-on-Sea General Hospital.

TRAIL, R. R., M.D. Aberd., F.R.C.P. Lond., Hon. Physician to Papworth Village Settlement, Cambridge.

Births, Marriages, and Deaths

BIRTHS

DOCKRAY.—On July 22nd, the wife of Edgar Dockray, M.B. Edin., Cobham, Surrey, of a daughter.

GELDARD.—On July 20th, at Sheringham, Norfolk, the wife of H. Colin Geldard, M.R.C.S. Eng., of a daughter.

GIPSON.—On July 22nd, at Welbeck-street, the wife of T. C. Gipson, B.Chir. Camb., of a son.

WALKER.—On July 21st, at Wolverhampton, the wife of Robert Milnes Walker, M.S. Lond., F.R.C.S. Eng., of a daughter.

MARRIAGES

CUTLACK—BOWEN.—On July 17th, at St. Andrew's Church, Cardiff, A. Russell Cutlack, M.R.C.S. Eng., to Gwendoline Ellen, daughter of Mr. W. Bowen, Treharris.

DEATHS

BENNETT.—On June 28th, at Gerringong, New South Wales, George Herbert Bennett, M.R.C.S. Eng., son of the late John Nicholas Bennett, of Plymouth, in his 76th year.

CHILL.—On July 23rd, Edwin Albert Chill, O.B.E., M.D. Edin., of Battle, Sussex.

DAVIDSON.—On July 13th, at Murree, India, Robert Davidson, M.D. St. And., Lieut.-Colonel, R.A.M.C., aged 48 years.

JONES.—On July 26th, at Cambridge-street, W., William Howard Jones, M.B. Lond.

LE RICHE.—On July 25th, at Worthing, Philip John Le Riche, M.R.C.S. Eng.

SANDERSON.—On July 25th, at Basra, Iraq, Arthur Frederick Sanderson, M.R.C.S. Eng., son of Walter Sanderson, of Kew Gardens.

WALLACE.—On July 23rd, Hygeia Leigh Josephine Wallace, M.R.C.S. Eng., of Plowden Buildings, E.C.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

NOTES, COMMENTS, AND ABSTRACTS

"GRAVEYARD" WALKER—A FORGOTTEN BENEFACTOR

A curious obriquet with which to pass through and out of life. The owner thereof, though now forgotten, was, despite the strangeness of his appellation, a significant benefactor of his fellows, and earned his title, but little other recognition, by exposing grievous abuses and by strenuous agitation until remedy was effected. Sir John Simon, the first Medical Officer to the City of London, and later of the Board of Health and Local Government Board, in detailing some victories of preventive medicine recalls how the names of the protagonists have been forgotten, and ponders:

"Doubtless this is so: but let the noble compensation be noted that often the thoroughness of a reformer's victory is that which most makes silence of the reformer's fame."[1]

Of few are these words so true as of "Graveyard" Walker. Who was he, and why should we endeavour to rescue him for a brief space from the oblivion of time?

George Alfred Walker was born in Nottingham in 1807, studied medicine in London, sojourned for a time in Paris, returned to London and practised his profession in Drury Lane, and died in retirement in Wales in 1884. His working life was consumed by one passion, that of the reform of the condition of burial places, a reform to which he was stirred in quite early years by sights which he witnessed in his native city. The subject is not a pleasant one. There may be room still for improvement in methods of disposal of the dead, but the conditions which prevailed a century ago are to-day unbelievable. Burial grounds, of limited space, often of private ownership, were situated amidst congested populations and the constantly increasing demands upon their capacity resulted in conditions which offended reverence, decency, morals and health. It would be ghoulish to dwell upon the abhorrent details which Walker accumulates in his various writings, but anyone who cares to study these may sup his full of horrors.

Sir John Simon, in reporting to the City of London, expressed the theme in forceful phrasing:

"Nor can I refrain from adding, as a matter claiming attention, that, in the performance of intramural interment, there constantly occur disgusting incidents dependent on overcrowdedness of the burial ground; incidents which convert the extremest solemnity of religion into an occasion for sickness and horror; perhaps mingling with the ritual of the Church some clamour of grave-diggers who have miscalculated their space; perhaps diffusing amidst the mourners some nauseous evidence and conviction that a prior tenant of the tomb has been prematurely displaced, or that the spade has impatiently anticipated the slower dismembering of decay."

Dickens too, eager always to attack abuses, has drawn a graphic picture in "Bleak House":

"'There,' says Jo, pointing, 'over yinder. Among them piles and bones and close to that there kitchen winder! They put him very nigh the top. They was obliged to stamp upon it and get it in. I could unkiver it for you with my broom if the gate was open. That's why they lock it, I suppose. It's always locked. Look at the rat!'"

And Walker placed on the frontispiece of his "Gatherings in Graveyards" some lines from another contemporary, Henry Kirke White, described in the "Dictionary of National Biography" as a poetaster, but in memory of whom the "Remains of Henry Kirke White," attaining to 10 editions, was compiled by Southey.

"And who would lay
His body in the city burial place,
To be thrown up again by some rude sexton
And yield its narrow house another tenant,
Ere the moist flesh has mingled with the dust
Ere the tenacious hair had left the scalp,
Exposed to insult lewd, and wantonness?
No, I will lay me in the village ground;
There are the dead respected."

Well might Walker exclaim:

"It is quite certain that any attempt to draw a parallel between the ancient heathen and the modern Christian in this respect would be infinitely to the disgrace and dishonour of the latter."

Walker had been stirred to revolt on this subject by scenes witnessed in early days, by further experiences in Paris, and his reforming zeal was continually moved by the loathsome evidence which pressed upon him in the densely-populated neighbourhood amidst which he later practised. He wrote books, of which "Gatherings from Graveyards," published in 1839, was the earliest; he lectured on his subject; he aroused public interest, and was mainly responsible for the appointment of a Select Committee of the House of Commons in 1842. Later, government inquiries and reports followed, the reform received the powerful advocacy of Chadwick, and ultimately in 1852 there was placed on the Statute book an Act to amend the Laws Concerning the Burial of the Dead in the Metropolis, the provisions of which were in the following year extended to England. These enactments opened the way for the remedy of the worst abuses, and were the forerunners of later legislation.

Thus "Graveyard" Walker lived to witness the fruit of his labours, but it is probable that none now ever pause to pay him tribute. After his death a contributor to *The Athenæum* of July 12th, 1884, wrote:

"Others who took up the cry after him obtained the reward. His sole recompense was in witnessing the triumph at last of the cause he had so long and energetically advocated."

AFTER-CARE OF QUETTA CASUALTIES

AFTER the earthquake of May 31st at Quetta the cases of severe fracture were transferred to the Mayo Hospital at Lahore, where it was possible to segregate in separate wards the fractures of different regions, spine, pelvis and femur. Balkan frames fitted with adjustable pulleys, weights and traction cable were available for all cases. Many fractured thighs were treated by stainless steel pins, transfixing soft tissues and bone, attached by a stirrup to the traction cable, the limbs being supported in flannel slings on Braun's cradles. In other cases the Kirschner wire was used, with the appropriate design of stirrup for this variety, Lieut.-Colonel W. Ross Stewart, I.M.S., reports that in no single case was there a sign of septic infection of the soft tissues or bone, and the patients were invariably comfortable. Although most of the cases were put up under local anæsthesia perfect alignment was attained. Many cases of fractured pelvis were treated by pin or wire traction applied to both lower limbs. "Aeroplane" splinting combined with transfixion and spring traction was used for fractures of the upper arm, allowing of movement of surrounding joints with no disturbance of alignment. Fractured spines were all reduced on a special table before splinting. Colonel Stewart notes that, although a host of workers had contributed to organise this surgical clinic and to improvise apparatus, there were none of the usual features of improvised equipment. Lieut.-Colonel D. H. Rai, I.M.S. and Lieut.-Colonel J. J. Harper Nelson had much to do with the provision of this surgical unit and the expansion of beds, but Colonel Stewart attributes the exceptional standard reached to the vision, energy, and skill of Lieut.-Colonel V. R. Mirajkar, I.M.S., superintendent of the

[1] English Sanitary Institutions, p. 124.

hospital and professor of operative surgery in King Edward Medical College. There is no doubt, he writes, that, collectively and individually, these patients received a surgical service which could not be bettered in any country in the world—a matter of comfort to all concerned in the Quetta catastrophe.

FALTA-FESTSCHRIFT

IN honour of Prof. Wilhelm Falta's sixtieth birthday, a recent number of the *Wiener Archiv für Innere Medizin* was dedicated to him (1935, xxvii., No. 1). It was no small thing that in the difficult times of 1920 he was able—with one or two others—to start a new medical journal which has ever since taken a high place among clinical periodicals. His contributions to endocrinology have had a wide influence: it is largely owing to his teaching, for example, that the use of a physiological diet in the treatment of diabetes has been generally accepted; he has brought out the value of insulin in non-diabetic conditions, and much of our clinical knowledge of the "polyglandular syndromes" comes from his experience. It is fitting that seven of the papers included in this "Falta-Festschrift" appear under his ægis; for no chief inspires more willing work or gives more ideas to his assistants.

Among the assembled contributions we may mention one by Boller and Fenz, who have followed blood transfusion for septicæmia by an injection of adrenaline five or six hours later—the object being to stimulate the blood depots so that the white cells should be rapidly, instead of gradually, passed into the circulation. They record that in several cases the adrenaline injection was followed by a rigor and permanent fall of the temperature to normal; blood counts showed a considerable leucocytosis within half an hour.

HEDBLOM'S SYNDROME

REPORTING three cases of acute primary diaphragmitis, M. Joannides, of Chicago, suggests (Amer. Jour. Med. Sci., 1935, clxxxix., 566) that C. A. Hedblom's name should be applied to this condition which he was the first to describe. The symptoms and signs are painful breathing and coughing, immobilisation of the diaphragm as shown by X rays, and costal breathing. There is also abdominal pain, generally involving the upper abdominal quadrant, and there may be pain at the costal margin or even at the angle of the scapula. The pathological change is an acute exudative and proliferative inflammation of the diaphragm, the muscle fibres being probably replaced by scar tissue. The contiguous portion of the pleura may be involved, giving rise to adhesions between the diaphragm and the lung. The inflammation may then spread to the intrathoracic organs above or to the intra-abdominal organs below. The syndrome may be primary or follow an acute nasopharyngeal inflammation in much the same manner as pneumonia, influenza or some cases of acute appendicitis.

Of the three patients whose illness Joannides describes, two recovered and one died.

TO DERMATOLOGISTS

WE are informed that a young woman has, during the last two years, visited several dermatologists and obtained certain cosmetic treatment for which she does not pay, on the ground that her brother who is abroad intends to settle the account for her. Apparently she goes from the first dermatologist to the next, as the patience of her advisers evaporates, and the aggregate sum in fees she owes is considerable. One of her creditors suggests that his colleagues should know that a patient who gives this particular family history may have to be regarded as an object of charity.

DUNDEE ROYAL INFIRMARY.—A new block has been opened here consisting of a department of pathology and a dispensary. Its cost has been met by the legacy of over £24,000 received from the late Sir James Duncan.

Vacancies

For further information refer to the advertisement columns

Aberdeen University.—Lecturer in Morbid Anatomy in Dept. of Pathology. £400.
Accrington, Victoria Hospital.—H.S. £150.
Bedford County Hospital.—Second H.S. At rate of £150.
Birmingham United Hospital.—First Asst. for Neurological Dept. £200.
Birmingham University, Faculty of Medicine.—Chair of Dental Surgery. £1000.
Birmingham and Midland Eye Hospital.—H.S. At rate of £130.
Blackburn Royal Infirmary.—Res. H.P. £175.
Bolton Royal Infirmary.—H.S. £125.
Brighton, Royal Alexandra Hospital for Sick Children.—H.S. £120.
Cardiff, King Edward VII. Welsh National Memorial Association.—Half-time Asst. Tuber. O.'s. Each £250.
Chester Royal Infirmary.—H.P. and two H.S.'s. Each £150.
Chorley & District Hospital, Lancs.—H.S. At rate of £150.
Derbyshire County Council.—Locum Asst. Maternity and Child Welfare M.O. At rate of £600.
Dewsbury and District General Infirmary.—Sen. H.S. £200.
Doncaster Royal Infirmary.—H.S. to Eye and Ear, Nose, and Throat Depts. £175.
Durham County and Sunderland Eye Infirmary.—H.S. £350.
Fareham, Hants, Knowle Mental Hospital.—Jun. Asst. M.O. £350.
Golden-square Throat, Nose, and Ear Hospital, W.—Anæsthetist. £150. Also H.S. At rate of £100.
Harrogate Royal Bath Hospital.—Res. M.O. £156.
Herefordshire General Hospital.—H.P. £100. Also H.S. and Cas. O. At rate of £100.
Hove General Hospital.—Res. M.O. At rate of £150.
Kent and Canterbury Hospital.—H.P. At rate of £125.
Lancaster Royal Infirmary.—Jun. H.S. At rate of £130.
Leicester Royal Infirmary.—Jun. Res. Anæsthetist. £125.
Liverpool, David Lewis Northern Hospital.—Surg. Tutor and Reg. Also Registrar to Orthopædic Dept.
Liverpool Royal Babies' Hospital, Woolton.—Res. M.O. At rate of £90.
Liverpool Royal Children's Hospital.—Res. M.O. Also Res. Surg. O. for Heswall Branch. Each at rate of £120.
Liverpool University, Lectureship in Bacteriology.—£400
Manchester Babies' Hospital, Burnage-lane, Levenshulme.—Sen. Res. M.O. At rate of £125.
Manchester Ear Hospital, Grosvenor-square, All Saints.—H.S. At rate of £150.
Manchester Royal Infirmary.—Med. Reg. to Out-patient Dept. Also Med. Reg. At rate of £150 and £100 respectively.
Manchester, Withington Hospital and Institution and Crumpsall Hospital and Institution.—Jun. M.O.'s. Each at rate of £200.
Margate Royal Sea Bathing Hospital.—H.S. At rate of £200.
Middlesbrough, North Riding Infirmary.—Third H.S. At rate of £125.
Middlesex Education Committee.—Teacher in Anatomy 2 gns. per session.
Newcastle-upon-Tyne, Hospital for Sick Children. H.P. and H.S. Each at rate of £100.
Newcastle-upon-Tyne Royal Victoria Hospital.—Med. Reg. £250. Jun. Surg. Reg. £150. Also Res. Anæsthetist. £100.
Northampton County Mental Hospital, Berrywood.—Deputy Med. Supt. £550.
Northumberland C.C.—Asst. County M.O.H. £500.
Nottingham Children's Hospital.—Res. H.S. At rate of £150.
Nottingham General Hospital.—Cas. O. Also H.S. for Ear, Nose and Throat Dept. Each at rate of £150.
Oswestry, Robert Jones and Agnes Hunt Orthopædic Hospital.—H.S. At rate of £200.
Peterborough and District Memorial Hospital.—Pathologist. £500.
Preston, County Mental Hospital, Whittingham.—Deputy Med. Supt. £750.
Princess Elizabeth of York Hospital for Children, Shadwell, E.—Cas. O. Also H.S. Each at rate of £125.
Queen Mary's Hospital for the East End, E.—Cas. and Out-patient Officer. £150.
Rochdale Infirmary and Dispensary.—Jun. H.S. £200.
Rotherham Hospital.—Cas. H.S. £150.
Royal Chest Hospital, City-road, E.C.—Med. Reg. £50.
Sheffield, Children's Hospital.—H.S. At rate of £100.
Sheffield Royal Infirmary.—Second Asst. Cas. O. At rate of £80.
Stoke-on-Trent, Longton Hospital.—H.S. £160.
Taunton and Somerset Hospital.—H.P. and H.S. Each at rate of £100.
Tunbridge Wells, New Kent and Sussex Hospital.—H.S. £150.
University of London.—Graham Scholarship in Pathology. £300.
Ventnor, Isle of Wight, Royal National Hospital for Consumption, &c.—Jun. Asst. Res. M.O. At rate of £300.
Walsall General Hospital.—H.S. At rate of £150.
Walsall, Manor Hospital.—Jun. Res. Asst. M.O. £150.
Warwick, King Edward VII. Memorial Sanatorium, Hertford Hill.—Jun. Asst. M.O. At rate of £200.
West Africa, St. Joseph's Hospital, Bolahun, Liberia.—M.O. £250.
Wimbledon Hospital, Thurstan-road, S.W.—Res. M.O. At rate of £150.
Wolverhampton Royal Hospital.—H.S. for Fracture and Orthopædic Dept. At rate of £100.
Wolverhampton, Prestwood Sanatorium.—Asst. Res. M.O. £400
Woolwich and District War Memorial Hospital, Shooter's-hill, S.E.—Res. M.O. £175.